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ABSTRACT

This combined audiovisual and textual package presents results of a symposium which attempted to identify critical issues and best practices in developing communication skills of children and youth with severe disabilities and to recommend future directions. The package is intended for group use and includes a guide, a videotape, and texts of the two keynote speeches and 10 topic papers. Papers have the following titles and authors: "Assuring Best Practices in Communication for Children and Youth with Severe Disabilities" (James McLean); "Maximizing Family Participation in the Team Process" (Cory Moore); "Facilitating and Measuring the Team Process within More Inclusive Educational Settings" (Bonnie L. Utley); "Maximizing Consumer Participation in the Team Process" (Kim Powers); "Using Functional Communication Training as an Intervention for the Challenging Behavior of Students with Severe Disabilities" (V. Mark Durand); "Communication Intervention for Individuals with Dual Sensory and Intellectual Impairments" (June E. Downing); "Effective Communication Programming for Language Minority Students with Severe Disabilities" (Elva Duran); "Communication Intervention for Persons with Severe and Profound Disabilities: An Overview" (Joe Reichle et al.); "Innovative Assessment Measures and Practices Designed with the Goal of Achieving Functional Communication and Integration" (James W. Halle); "Enhancing Curricular Designs" (Pat Mirenda and Stephen Calculator); "Is Communication Really the Point? Some Thoughts on Where We've Been and Where We Might Want To Go" (Dianne L. Ferguson); and "Dreams, Schemes, Teams, Flying Machines and Persons with Severe Communication Disabilities" (David E. Yoder). References accompany most papers. The videotape contains interviews with authors and focus group representatives. Appendices include guidelines for meeting the communication needs of persons with severe disabilities, a list of publishers, and a table of contents of the videotape. (DB)

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The Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities:

Topic Papers, Reader's Guide & Videotape

Edited by
Lisa Küpper

EC 302252

Interstate Research Associates
McLean, Virginia
May, 1993

BEST COPY AVAILABLE

The Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities: A Vision for the Future was held July 10-12, 1992, in McLean, Virginia.

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This package, which includes the reader's guide, the keynote addresses, the topic papers, and the videotape, is in the public domain unless otherwise indicated. Readers are encouraged to copy and share it, but please give proper credit by providing a complete citation of any materials you disseminate. For example, the correct citation for Dr. Bonnie Utley's article would be as follows:

> Utley, B.L. (1993). Facilitating and measuring the team process within more inclusive educational settings. In L. Küpper (Ed.), *The Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities: Topic papers, reader's guide & videotape* (pp. 55-78). McLean, VA: Interstate Research Associates, Inc.

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INTRODUCTION

The Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities was held in July 1992. Two keynote speakers, ten authors/presenters, and eighty invited participants gathered to:

- identify critical issues and best practices in the area of developing communications skills for children and youth with severe disabilities, including deaf-blindness; and
- recommend future directions for the acquisition and enhancement of effective communication by these children.

This publication presents the results of the Symposium, in the hope that all those who live with, work with, and care about children and youth with severe disabilities can participate in the exchange of information, research, and ideas that the Symposium made possible.

Background

The first symposium, "Children and Youth with Severe Handicaps: Effective Communication," was held in 1985. The outcomes of the first symposium included discussion papers and reaction and consensus statements that set the tone for the further development of goals and objectives to promote the communication welfare of children and youth with severe disabilities.

In the years since the first symposium, a great many changes have taken place in the field of communication and in the services available to children and youth with severe disabilities, including:

- a shift in funding patterns placing greater financial responsibility on the states to provide quality services to these children;
- an expansion of early intervention services;
- the development or refinement of new instructional methods and strategies for working with these students;
- the evolution and advancement of assistive technology to enhance the lives of these children;
- an emphasis on the provision of educational services in regular education classrooms for these children; and
- a growing emphasis on transition, with a focus on such outcomes as employment, independent living, and community integration for youth with severe disabilities.

Given these changes, it was determined that another Symposium was necessary to address new developments, current thinking, and activities. Most important was the need to again take stock -- examine, evaluate and share information -- and set a direction for future activities regarding effective communication options for children and youth with severe disabilities.

The Second National Symposium

The Planning Committee. The focus of the second Symposium was developed by the 1992 Symposium Planning Committee, with the assistance of the U.S. Department of Education, Office of Special Education Programs, Severe Disabilities Branch, and Interstate Research Associates, Inc., of McLean, Virginia.

The Planning Committee met to determine the critical issues the Symposium would address. One major issue discussed by the Committee was the need to identify effective communication skills that would allow children and youth with severe disabilities to participate in integrated school and community settings. Another issue of importance was the need to identify assessment practices and communication interventions that enhance the ability of children with severe disabilities to communicate functionally across a variety of settings. Over-arching the concept of effective communication, the Committee felt, was the need to look closely at the quality of life experienced by such persons.

The Themes. In keeping with these critical need areas, the Committee identified four major focus areas, or *themes*, that the Symposium would address:

- The Establishment of an Integrated Environment in Which Effective Strategies for Team Approaches to Functional Communication Can Be Realized;

- Best Practices in Assessment and Intervention Strategies for Meeting the Communication Needs of Children and Youth with Severe Disabilities;

- Strategies for Meeting the Communication Needs of Children with Cultural, Linguistic, Geographic, and Etiological Differences;

- The Design of Educational Programs to Promote the Quality of Life for Individuals with Severe Disabilities.

To address these four themes, the Planning Committee identified ten topic papers to be prepared and corresponding authors and presenters.

Preparation of the Topic Papers. The authors identified by the Committee were invited to write papers on the ten selected topics, each of which related to one of the four themes. In keeping with the Symposium's announcement in the *Federal Register*, each topic paper was to include the following:

- a synthesis of the related research;

- an assessment of the state of practice of implementation; and

- recommendations for future directions for knowledge development activities and implementation of educational practices.

Prior to the Symposium, the papers were distributed to Symposium participants, so that all those attending would have an opportunity to read and critically review the material before the Symposium began.

Presentation and Discussion of the Papers. In July of 1992, 80 invited participants gathered at the Symposium. These participants represented a cross section of parents, consumers, and professionals in the field of severe disabilities, including deaf-blindness.

During the Symposium each author presented a brief summary/overview of his or her paper to all the participants. Following presentation of the papers, participants broke into small focus groups. Each group was assigned one topic paper to discuss or was asked to synthesize findings and recommendations in regards to one theme. To help guide the discussion, each focus group was given a set of questions to consider or goals to accomplish, such as:

- List up to 5 ideas that would most likely assist service providers in enhancing their delivery;
- List up to 3 recommendations for research in this area; and
- List up to 3 recommendations for educational activities over the next 5 years.

The results of the focus group discussions (which are included in the Wrap-up section of this package) and the results of the participants' critical reviews were given to the authors and formed the basis for their revisions to their papers.

Outcomes of the Symposium

One of the most important determinations made by the Symposium's participants was that it was critical to find ways to share the information generated by the Symposium. To that end, this print and video product has been developed and is made available to anyone who wishes to use it.

This package -- which contains the complete text of the two keynote addresses and ten topic papers, a Reader's Guide, and a videotape -- has been designed so that the materials can be adapted for many uses, in order to better serve the needs of a wide range of people with varying expertise, interests, and goals. Intended users include parent groups, universities, professional organizations, state and local agencies, and professionals working with individuals with severe disabilities, particularly in the area of communication.

An Invitation to Participate

It is the hope of all the presenters, participants, and project staff that, by sharing the print and video material in this package, you and your organization may also participate in the Symposium -- both by discovering information that may assist you and by contributing your own insights and experiences. By adapting these materials to your own purposes, needs, and study methods, we hope that you will find this package to be a valuable tool in enhancing the communication capabilities of children and youth with severe disabilities in integrated settings.

Copying and Citing of These Materials

All the materials in this package, including the videotape, are in the public domain and may be copied and disseminated freely, unless otherwise indicated. Please be sure to give proper credit by providing a complete citation of any materials you copy and disseminate. For example, the correct citation for Dr. Bonnie Utley's article would be as follows:

Utley, B.L. (1993). Facilitating and measuring the team process within more inclusive educational settings. In L. Küpper (Ed.), *The Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities: Topic papers, reader's guide & videotape* (pp. 55-78). McLean, VA: Interstate Research Associates, Inc.

Availability of This Package

Additional copies of this package are available for purchase from the National AudioVisual Center, which has been provided with masters of both the print material and the videotape. The cost of the package will vary, depending upon current duplication charges.

To request one or more copies, contact:

Customer Service Section
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The Symposium Project Staff would like to thank the members of the Planning Committee for their outstanding work both before and during the Symposium; the authors/presenters, whose excellent papers and presentations were stimulating and filled with useful information; the participants, for their time, energy, and knowledgeable contributions; and Dr. Sara Conlon, our Project Officer, for her unwavering dedication to the communication needs of children and youth with severe disabilities.

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READER'S GUIDE

PURPOSE OF THIS PACKAGE

The purpose of this package is to enable you and your organization to participate in the Symposium in much the same way as those who attended the event. In fact, you have an even better opportunity, because you can adapt the materials and choose ways to use them to fit your needs, interests, resources, and time.

The package is intended to support the interests and activities of all those involved in the care and well-being of children and youth with severe disabilities. This includes:

- individuals interested in studying on their own;
- parent groups;
- school district staff development programs;
- university training programs in the professions of speech-language pathology, audiology, special education, and regular education;
- in-service teacher training programs;
- local or state organizations; and
- professionals working with individuals who have severe disabilities.

The information and materials enclosed can help you study on your own or organize an event involving others, such as a series of workshops or focus groups on selected topic papers, panel discussions, or a symposium with invited state or local guest speakers. An event can be designed to take place in one or two full days or a few hours each week.

Whatever forum or method you choose, it is hoped that your goals will include the following:

(1) to obtain and share information about the communication needs of children and youth with severe disabilities, especially within integrated settings;

(2) to obtain and share information about assessment practices and intervention strategies for children and youth with severe disabilities, with a particular emphasis upon communication within integrated settings;

(3) to clarify local values and strategies; and

(4) to develop a written action plan to improve service delivery.

CONTENTS OF THIS PACKAGE

This package contains:

- a Reader's Guide to assist you in using this package,
- the complete texts of the two keynote speakers' addresses,
- the ten topic papers presented at the Symposium,
- a wrap-up section,
- an appendix containing additional information and resources, and
- a videotape.

Reader's Guide. The Reader's Guide provides suggestions for independent study, as well as information to assist those who wish to use these materials with a group. This includes suggestions for organizing a symposium, panel presentation, or series of workshops.

The Keynote Addresses and the Ten Topic Papers. The full text of each author's paper is provided. To make it easy to locate any given paper in this volume, all papers are offset by red tabs marked with the last name of the author(s).

Wrap-up. This section, offset by a tab labelled "Wrap-up," contains:

- suggestions for concluding your meeting, including conducting an evaluation of participant satisfaction (sample evaluation forms are attached) and writing and disseminating the findings and recommendations of the participants; and

- the focus group reports on the topic papers and themes of the Second National Symposium.

Appendix. There are three separate Appendices behind the red tab marked "Appendix." These appendices are:

- Appendix A, which presents the complete text of the "Guidelines for Meeting the Communication Needs of Persons with Severe Disabilities," authored by the National Joint Committee for the Communicative Needs of Persons with Severe Disabilities (1992) and published in the American Speech-Language-Hearing Association's journal, *Asha*.

  Many of the papers contained in this volume draw upon and discuss this important *Asha* article, and it is through the generosity of the American Speech-Language-Hearing Association that the "Guidelines" are reprinted here in their entirety.

- Appendix B, which offers a list of the publishers of the books and journals referenced in the keynote addresses and ten topic papers. This list includes the telephone numbers and addresses of publishers and is provided to assist individuals in obtaining any of the references or resources listed in this document.

- Appendix C, which presents a "Table of Contents" for the videotape, including the order of interviews and the times associated with each. This time listing is provided to help users quickly locate each interview on the videotape.

Videotape. The videotape presents a series of interviews with the authors and a representative from each of the focus groups. It is not a tape of the entire Symposium or of each presentation. (For the videotape's "Table of Contents," see Appendix C.)

Although the video's introduction relates to the entire Symposium and would be of interest to everyone, the interviews are intended to be viewed individually in conjunction with the review and discussion of each author's paper. The interviews touch on the highlights of each topic paper; the conversations allow you to "meet" the author and hear for yourself how he or she feels about the subject or what he or she would like to see and do about it in the future. Some interviews reveal the author's more personal thoughts and comments, which were not included in the formal papers.

Suggestions for how to use the videotape are presented later on in this Reader's Guide, under the heading "Using the Videotape."

KEY DEFINITIONS

Definitions of "children and youth with severe disabilities" and of "communication" are presented below. These two definitions were provided to all Symposium participants in order to establish a common understanding of these terms. You may find it useful to provide these key definitions to all those participating in any event you conduct in relation to this Symposium.

Children with Severe Disabilities

The following definition of "children with severe disabilities" was published in the *Federal Register* on October 22, 1991:

> (1)...the term "children with severe disabilities" refers to children with disabilities who, because of the intensity of their physical, mental, or emotional problems, need highly specialized education, social, psychological, and medical services in order to maximize their full potential for useful and meaningful participation in society and for self-fulfillment.

(2) The term includes those children with disabilities with severe emotional disturbance (including schizophrenia), autism, severe and profound mental retardation, and those who have two or more serious disabilities such as deaf-blindness, mental retardation and blindness, and cerebral-palsy and deafness.

(3) Children with severe disabilities--

(i) May experience severe speech, language, and/or perceptual-cognitive deprivations, and evidence abnormal behaviors such as--

(A) Failure to respond to pronounced social stimuli;

(B) Self-mutilation;

(C) Self-stimulation;

(D) Manifestation of intense and prolonged temper tantrums; and

(E) The absence of rudimentary forms of verbal control; and

(ii) May also have extremely fragile physiological conditions.

Reference: 20 U.S.C. 1424 and 34 CFR 315.4(d), as published in the *Federal Register, 56*(204), p. 54692.

Communication

Communication is any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge, or affective states. Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms, and may occur through spoken or other modes.

Thus, all persons do communicate in some way; however, the effectiveness and efficiency of this communication vary with a number of individual and environmental factors. Further, some individuals with severe disabilities develop unconventional and socially inappropriate means to communicate, including aggressive acts toward themselves and others. It is the responsibility of all persons who interact with individuals with severe disabilities to recognize the communication acts produced by those individuals and to seek ways to promote the effectiveness of communication by and with those individuals. (National Joint Committee for the Communicative Needs of Persons with Severe Disabilities, 1992, p. 2)

Reference: National Joint Committee for the Communicative Needs of Persons with Severe Disabilities (1992). Guidelines for meeting the communication needs of persons with severe disabilities. *Asha, 34* (March, Supp. 7), 1-8. (The article containing this definition is reprinted in its entirety in Appendix A of this volume.)

HOW THIS PACKAGE CAN BE USED

There are a variety of ways in which you can use this package. For example, you may choose to:

- read these materials as part of an independent study project;
- hold your own symposium or a series of panel presentations; or
- hold a series of workshops.

Studying these materials on your own would involve using any or all of the steps described on the next page, under "Suggestions for Independent Study."

Holding your own symposium or panel presentation might involve inviting local/state professionals to speak on topics of interest at the local level, such as parent/professional collaboration, augmentative or alternative communication techniques in the regular classroom, or current techniques for assessing the communication skills of children and youth with severe disabilities.

Holding a series of workshops might involve creating focus groups to read and discuss selected papers in this package, as well as share ideas on implementing new strategies and techniques.

SUGGESTIONS FOR INDEPENDENT STUDY

Listed below are some suggestions for how you might make use of these materials as part of an independent study project.

- First, read the Introduction to this package, to get an overview of the goals and outcomes of the Second National Symposium.

- View the videotape's introduction. It includes an overview of the topics and provides a solid foundation from which to approach the material in this package.

- Review the definitions of *children with severe disabilities* and *communication* on pages 20-22.

- Read the brief abstracts introducing each individual topic paper. From these, you can choose the paper you wish to read first (second, third, and so on). Before reading each paper, view the videotaped interview with the paper's author. (Please be aware that none of the interviews is a substitute for reading the author's paper. Each interview is intended to introduce the author and provide highlights of his or her paper.)

- While you read, you may wish to take notes on your thoughts, reactions, and any recommendations for action that you have. Then look over the focus group questions and recommendations for the paper (found in the Wrap-up section of this package) and view the interview with the representative of that topic's focus group session.

- Develop a list of actions you (or others) might take to make use of the information contained in the paper.

- Repeat this process for each paper you read. Then review and combine your results and action steps. Share your results with others. Share this entire package with others!

DECIDING HOW TO USE THIS PACKAGE WITH A GROUP

To decide whether a symposium, panel presentation, or series of workshops would be the best forum for your purposes:

- Read through this guide.
- Decide on the goal or purpose of the forum -- what do you want to accomplish?
- Read the abstract on the first page of each keynote address and topic paper to become familiar with the topics addressed in the Symposium. Select the papers most appropriate to your interests and goals.
- Consider the people you would like to have participate, and take into consideration their level of expertise and their availability before deciding which forum would be best. Also consider the potential size of the group and any limitations on space, session time, or other resources.

Once you've decided on the forum, the next pages will provide suggestions for how to go about preparing for the event.

SUGGESTIONS FOR CONDUCTING AN EVENT

The remainder of this section of the Reader's Guide is devoted to suggestions for organizing an event that uses, in part or in total, the keynote addresses, topic papers, and videotape contained in this package. Whether you wish to hold your own symposium, a panel presentation, or a series of workshops, the ideas presented below may prove useful as you plan, conduct, and follow up on your event.

Holding Your Own Symposium

To expand upon and apply the information discussed at the Second National Symposium to your city, county, or state, you may find it useful to hold a symposium of your own, using the topic papers and other materials in this package as a foundation.

Here are some suggestions for planning such a symposium.

- Organize a planning committee, if necessary. This committee can be responsible for selecting the topics and the papers upon which you'd like to focus and for developing the focus and activities of the symposium.

- Invite local professionals, parents, and consumers to speak on any of the Symposium papers or related subjects.

- Send each presenter a copy of the Second National Symposium's paper(s) upon which he or she will be basing his or her own remarks. You may wish to provide a list of suggested related topics (particularly of local and/or immediate interest) and allow presenters to choose one for their presentation. You could also include the paper's focus group results and some suggested discussion questions.

- It would be helpful if all participants received copies of the Symposium's papers to read in advance. If this is not practical, ask each invited guest speaker or another person to provide a concise summary or overview of the paper's main points, and disseminate this to participants ahead of time.

- Hold your symposium, allowing each speaker to present his or her remarks upon the Symposium paper(s). Either before or after a speaker's presentation, you may wish to show selected interviews contained on the videotape enclosed in this package. (See suggestions for "Using the Videotape" further below.)

- Remember to schedule at least a short amount of time for questions and answers.

Using a Panel. Another way to organize a symposium would be to create a panel (instead of individual guest speakers) to comment and expand upon a topic paper. A panel can also provide a very good follow-up to a guest speaker's presentation.

When you create a panel, choose individuals who reflect different points of view relating to the topic -- a teacher, a parent, and a local/state organization's representative, for example. They can comment on or add personal insights and local applications to a topic paper or a speaker's presentation.

Using Focus Groups. You may also choose to follow the speakers' or panel's presentations by breaking into smaller groups for focus group discussions, as the Second National Symposium did. In this way, all attendees can participate. Please refer to the specific information included in this guide regarding focus groups (see section entitled "About Focus Groups").

Wrap-up. For everyone to get the most benefit from such an event, it would be helpful to gather all the participants together again to share the reports from each focus group or to review the presenters' or panelists' main points.

The entire group can then determine how to use the results of your symposium. For example, the group may:

- identify resources to be obtained for local use and designate a person or a team of people to be responsible for this;
- recommend concrete actions to be taken to enhance local practice in the areas of assessment and communication intervention, particularly in regards to integrated settings for children and youth with severe disabilities; or
- establish committees or teams that will meet on an ongoing basis to identify and pursue ways of implementing any of the recommendations that emerge from your symposium.

Such a large group discussion can provide a direction for the future and specify action steps to be taken either by individuals or by the group as a whole.

Five to ten minutes at the end of your event should also be devoted to asking participants to complete an evaluation form, which provides planners and presenters with feedback on the meeting. (Two sample evaluation forms are presented in the "Wrap-up" section of this Reader's Guide.) The evaluation form should collect information on the effectiveness and usefulness of the meeting and each participant's level of satisfaction with the materials, activities, and results.

Holding a Series of Workshops and Focus Groups

Conducting a series of workshops is a useful way to inform and enhance local practice, as well as to develop and maintain networks of communication and collaboration among individuals and organizations.

Workshops can involve discussions of all the topic papers in this package or only a few specific topics. Here are some suggestions for organizing and conducting workshops.

- Select the papers that are applicable to your group's interests.

- Each workshop should concentrate on one topic.

- Be sure that each participant receives a copy of all applicable papers well in advance of the workshop. You might encourage participants to make notes of their comments and questions as they read and to bring these notes to the workshop.

- At the beginning of the workshop, show the introduction of the videotape and the interview with the author of the paper to be discussed. (See suggestions below on "Using the Videotape.")

- Have participants discuss each paper, using a *facilitator* to conduct the session and a *recorder* to document the group's main points (see description of these roles later in Reader's Guide). If the size of the workshop exceeds 25 people, you should break up into smaller groups for focus sessions.

(More detail is given further below about the role of focus groups; suggestions are also provided as to how to set up focus groups.)

- If you have used smaller focus groups, re-convene the entire group of participants after the focus sessions. Have a representative from each focus group report the results of their discussion to the larger group. The whole group can then discuss future directions and action steps.

- As was suggested above (under "Holding Your Own Symposium"), allow five or ten minutes at the end of your workshop to have participants complete and return an evaluation form, which provides planners and presenters with feedback on the usefulness of the workshop and each participant's level of satisfaction with the workshop's materials, activities, and results.

Using the Videotape

The videotape contains a series of independent interviews with the authors of the Second National Symposium papers and a representative of the focus group which discussed the paper at the Symposium. The tape is not intended to be viewed from start to finish without stopping, nor is it a substitute for reading the papers. It is a supplement to the papers, in some cases broadening the scope and adding personal insights from the author.

As mentioned earlier, Appendix C presents a "Table of Contents" for the videotape. In this appendix, the "times" indicated for each interview correspond to time as measured by a VCR *clock* (timer), not as measured by a machine's counter. To locate any given interview on the videotape, then, you would:

- check Appendix C to identify the "time" marking the beginning of the interview you wish to view;

- insert the video into your VCR, which causes the time clock (*not* the counter) on most machines to reset to 0:00;

- forward the tape until the VCR time clock (*not* the counter) shows the "time" marked for the beginning of the interview.

Here are some suggestions about how to use the videotape in any symposium, panel presentation, or workshop that you plan.

- Have participants read the appropriate Symposium paper; this should be done *before* they arrive at your event.
- At the beginning of a symposium, panel, or focus group discussion, show the introduction to the tape, then forward the tape to the author's interview.
- At the end of the interview, a graphic on the screen will indicate that you can either pause or stop the tape at that point or continue in order to listen to the interview with the representative of the Symposium's focus group. You may prefer to stop the tape, conduct your own focus group, and then return to the videotape to review remarks of the focus group representative. (The original focus group reports are located in the Wrap-up section of this package.)

Accommodations

Choose a room that is large enough to accommodate all the people invited. It is particularly important to make sure that each person with a disability who attends is able to take part in the meeting, if he or she desires. This includes:

- making sure that the room is accessible to anyone with a disability;
- providing an interpreter for the hearing disabled, a partner for the blind, an assistant for the deaf-blind;
- making room at the tables for wheelchairs or other transportation aids;

- taking time *before* the meeting to find out what methods may be used by individuals to communicate.
- learning how a person's augmentative communication device works, so that you'll know when that person wishes to be recognized to speak;
- making sure that facilitators of focus group sessions understand the accommodations needed by any focus group participants;
- finding out about the requirements of interpreters and/or assistants, including ensuring enough time within group discussions for interpreters to get messages across and to allow others an opportunity to join in or respond;
- helping the group understand how to include everyone in the discussion.

Additional Materials for Your Symposium or Workshop

To enhance the topic(s) under discussion, you may wish to make use of additional resource materials, such as:

- federal or state legislation;
- consumer advocacy reports;
- newspaper articles or professional journals; and
- additional videotapes.

Other considerations that may help your meeting flow include providing:

- tables or writing surfaces;
- note paper and pens for participants;
- flip chart easel;
- paper and markers for the recorder; and
- pitchers of water and glasses.

Also, don't forget to plan a break!

ABOUT FOCUS GROUPS

The purpose of a focus group session is to discuss the material, address related issues, and develop a list of action steps and/or recommendations. The goal of the focus group is not just to cover the material, but to determine ways to put the material into use.

Sessions can last from one to two hours and should always be conducted by a *facilitator*, with the assistance of a *recorder* to take notes (see information below on these two roles). The best focus groups are:

- small -- up to 15 people;
- well-prepared -- both by the facilitator and by reading the pertinent material beforehand; and
- varied -- consisting of individuals with a variety of backgrounds and experiences.

Results of focus group discussions should always include any actions that can be taken by individuals or the group. The resulting recommendations and action steps should always be shared with the larger group by the facilitator or another person designated by the group.

Providing Questions to the Focus Group

It is a good idea to provide each focus group with a short list of questions to address or tasks to accomplish. This helps to guide discussion within each group and gives the group a concrete goal and purpose. This Reader's Guide offers below a sample list of general questions that facilitators can use to stimulate discussion in the focus groups. In regards to providing questions:

- Choose from the questions suggested below and add others, in order to tailor the discussion to the participants' interests and expertise and the goals of your meeting.
- Be realistic about how many questions can be considered in the time you've allotted for focus group discussion. It can be very frustrating for a group to try to tackle too much in too little time.

As you probably already know, things always take longer than you think!

Possible Questions for Focus Groups

The goal statements or questions listed below were used with the focus groups at the Second National Symposium. No more than three of the questions were given to any one group at a time, in order to permit adequate discussion and completion of the task.

- List up to 5 ideas that would most likely assist service providers in enhancing their delivery.
- List up to 3 recommendations for research and up to 3 recommendations for educational activities over the next 5 years.
- List 5 factors that will facilitate the attainment of the recommendations made in the papers addressing this theme.
- Knowing that translating research into practice is difficult, list up to 5 suggestions which would improve this activity. What are your responsibilities for bringing this about?
- What specific assessment tools and procedures have you found to be effective?
- What barriers stand in the way of implementing the techniques or recommendations described in this paper?
- List strategies to overcome the barriers.

You may find that none or only some of these questions are suitable for your group, given the purposes of your meeting. In this case, you would wish to design your own questions or goal statements for your groups to address.

The Role of the Facilitator

The facilitator leads the focus group *activity*, not the substance of the discussion. It is this person's responsibility to:

- begin and end the session, keeping a close watch on the time;
- explain the purpose of the session;
- review the questions that will be under discussion and explain any time limitations;
- clarify the expected outcome;
- be sure everyone understands the purpose and expected outcome;
- explain the roles of the facilitator and the recorder;
- introduce all the discussion questions;
- hand out index cards (if used) for the participants to jot down his or her recommendations or ideas on each question.
- enable everyone to be recognized and have an opportunity to participate; and
- clarify the comments and refer the group to the recorder's ongoing notes to check that they are accurate.

Although the facilitator can contribute to the discussion, it should be made clear that this individual's comments are not intended to influence or determine the remarks of others.

The Role of the Recorder

The recorder's job is a bit like being the secretary taking the minutes of a meeting. While the recorder should not copy down every word or thought uttered, he or she will need to jot down the cogent points.

These points of discussion can be written down on large flip chart paper. As each page is filled, the recorder should hang it up, so that everyone can see it. Participants should feel free to comment on the notes -- are they correct and complete, do they reflect the main points and recommendations of the group?

Tips for the Recorder:

- Prior to the meeting, check the markers to be used, as some may bleed through several pieces of paper or have an unpleasant odor.
- Print in large letters on a flip chart, using markers in bold colors.
- Ask permission before hanging up the pages on the walls. Some surfaces can be damaged by tape or push pins.
- If the walls will be damaged, tape the pages to the back of chairs at the front of the room.

Using the Recorder's Charts

Reviewing the charts during break points can provide a good opportunity for the group to re-focus on the issues, wrap up one subject and get ready to move on to another, assign priorities to the list, or reach a consensus.

After the meeting, it is a good idea to take down and save the charts the recorder has produced. You can use the charts in the future to:

- make comparisons between groups;
- summarize the group's thoughts and recommendations;
- compile focus group reports or conference documents; and
- develop future directions and action plans.

Assuring Best Practices in Communication for Children and Youth with Severe Disabilities

A Keynote Address
by
James McLean, Ph.D.
Bureau of Child Research
University of Kansas

This keynote address begins with a discussion of the difference between words and action, remarks directed specifically to the practitioner's task of meeting the communication needs of children and youth with severe disabilities.[1] *Brief overviews of current perspectives and practices are provided and include such critical areas as: how we define and understand communicative acts, and the need for inclusionary environments that are rich in communication opportunities for individuals with severe disabilities. Specific problem areas are identified, including: the need for disseminating and implementing the extensive knowledge base on communication practices, the need for improved preservice and inservice training, and the need to match our stirring words with action.*

My responsibility at the initiation of this Symposium is to identify the critical issues that emerge as we seek to implement best practices for assuring functional communication skills for children and youth with severe disabilities. The "Guidelines for Meeting the Communicative Needs of Persons with Severe Disabilities," prepared by the National Joint Committee for the Communication Needs of Persons with Severe Disabilities (1992), offer a listing of the "communicative rights" of persons with severe disabilities and discuss, in some detail, the current best treatment practices for helping these individuals attain functional communicative skills. These guidelines reflect a wide array of philosophical and legal bases. Thus, I think it would be appropriate to begin this initial symposium discussion with an appreciation for the societal elements that have brought us together in this commitment.

Where We Are

Our society is dominated by the philosophy of humanism and a commitment to helping *all* individuals achieve their highest potential of productivity. Our commitment to people with disabilities is codified in Federal laws such as Public Law (P.L.) 94-142, P.L. 99-147,

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[1] This keynote address was prepared for and presented at the Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities, held July 10-12, 1992 in McLean, Virginia. The Symposium was supported through Grant No. H086B10002, a Cooperative Agreement between Interstate Research Associates, Inc., and the Office of Special Education Programs (OSEP) of the U.S. Department of Education. The opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement should be inferred.

P.L. 104-476, the Part H reauthorization, and, most recently, the Americans with Disabilities Act. Furthermore, our philosophy has produced and promulgated a pervasive set of revisions of the language that is used in discussions specific to persons with disabilities. We are all familiar with this language that, for example, considers people not as "handicapped persons" but, rather, as "persons challenged by disabling conditions." Clearly, as humanists, we embrace such language and have easily adjusted our own attitudes and perspectives to accommodate and appreciate the power of these semantic distinctions. There are few places where the new language is ensconced more strongly and pervasively than in education and politics. In education and politics, the language used in our discussions of children with disabilities (and their families) reflects our values with fidelity and power.

Where We Aren't

Even though our philosophical and political high ground has been most productive in the arenas specific to educational efforts for children and youth with severe disabilities, we should all realize that our deeds do not yet match the promise of our laws or our language. We should all realize, too, that our philosophical holdings and our revised language do not themselves specify how we will attain our values and our educational goals; they primarily set the targets for that process in which we gather and apply our knowledge on behalf of children.

I think the difference between *language* and *action* is a major issue for us here. Our rhetoric is so good, so stirring, so politically correct, so all-encompassing, that I see a real problem in our confusing language with deeds. To my mind, one of the biggest issues we have to fear is that our words are so fearless and that, in many cases, they are a world apart from our actions. I say this because, too often, I see inclusionary school settings that really do not include, parent involvement that intimidates rather than involves, and the teaching of functional communication skills that would never be used or be useful in real world interactions.

I make this initial point, because our two days here will be focused on words, and I want each of you to be sensitive to the difference between words and deeds. I want each of you to evaluate the words that you hear. Are they operationally defined so that they have some base in reality? Are they true to fact? Our language in this domain is noble and consistent. Our rhetoric is sound. However, do our words map a world of real *deeds*? I sub-

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mit that, at the present time, they do not. As the street saying goes, "If we talk the talk, we had better walk the walk." If we fail our words, let's look to the reasons we do. I am confident that we will see that we don't fail our words because we are insincere or hypocritical. It is simply a fact that our words roll off our tongues and word-processor keyboards much more easily than they translate into educational action. The translation of our words into action demands a rigor, a commitment of resources, and a willingness to totally re-engineer our educational contexts that simply are not adequately reflected in most of the educational settings with which I am familiar.

The Knowledge Base for Designing and Implementing Best Practices in Communication Intervention

Before identifying what seem to me to be the critical best practices in communication, I first would like to review the major knowledge base for these practices.

The current knowledge base to support communication intervention for children with severe disabilities has been gained in empirical research focused on the products and the processes that are made apparent as children acquire communication abilities and eventually arrive at language. It is important to note that our knowledge base has been totally reshaped and greatly expanded in a process that began about 1970. The application of this enriched knowledge base in educational processes, aimed at meeting the communication needs of children and youth with severe disabilities, has been a major focus among speech-language pathologists, special educators, parents, and support personnel for the past 15 years. The symposium papers that you have today all reflect the most current applications of this knowledge base to the specifics of assessing and treating the serious communication problems of children and youth with severe disabilities.

While there is much more work to be done in this domain, one thing is evident: The papers we are discussing here make it clear that the current knowledge base in communication and language provides us with explicit guidelines for designing and implementing communication interventions for children with severe disabilities.

As we begin this quick review of the key aspects of our knowledge, I want to re-emphasize a few points I made earlier. We have a rich and productive knowledge base regarding human communication and how it is acquired by children. This knowledge has allowed us to completely redefine best practices in this domain over the past few years. The practices that we are discussing here were unimaginable 15 years ago. Our knowledge then was inadequate to identify even the practices we will be discussing here, let alone implement them. Basically, then, it is our revised knowledge about human communication and the way it is taught and learned -- not *developed*, but *taught and learned* -- that sets the parameters of sound assessment, appropriate individual goal-setting, and effective teaching procedures to enhance the abilities of persons with disabilities to communicate their needs and preferences to other people in their various environments. Within the limitations of this paper, I can only sketch out these knowledge bases in broad fashion. The details of this knowledge are easily available, however.

Specific Knowledge Holdings and Their Educational Products

Communication is an act on other people. A major product of linguistic philosophers (Morris, 1946; Searle, 1969) is an appreciation of communicative behaviors as behavioral acts on the user's social milieu of people. Communication is, most basically, a social tool to have effects on other people. After so many years of thinking of communication in terms of its forms and structures and of focusing upon its abstract, macro functions such as expressing ideas and feelings, we now see communication as functioning to allow us to interact appropriately and cooperatively with others. Among other things, our communicative signals act to greet other people, to get others to help us, to stop someone from doing something, to secure some desired object, to answer another's questions, and to get another to attend to something important to us. In short, communication signals act in ways that allow people to have specific and desired effects on the specific conditions in which they live, work, and play. You have seen this perspective represented in all of the papers prepared for this symposium.

This bit of knowledge (unconsidered but a few years ago) is the key to our current definition of *functional communication*. It provides one of the key perspectives for assessing a student's current communicative abilities and for identifying some specifically useful and needed goals for intervention. While this definitional knowledge of communication may be old hat to this audience, I assure you that it is not known by all of the professionals and parents now serving on intervention teams for children and youth with severe disabilities. In fact, I would suggest that most of the communication assessment and goal-setting for children with severe disabilities is currently being carried out on the basis of definitions of communication that are hopelessly abstract and adult-centered. Why else would we be teaching so many seriously challenged children to produce spoken words, name pictures, and identify colors?

Effective communication begins long before language is acquired. This knowledge is old hat to this audience, too, but it is a key bit of knowledge to selecting and implementing goals that will provide an immediate improvement in a child's ability to have effects on his or her life space. Research is clear in its documentation of the fact that many children with severe developmental disabilities who are nonverbal and nonsymbolic still manifest extremely robust communicative repertoires of gestures and vocalizations -- repertoires that, if allowed and responded to by the people in the children's environments, would allow them to have a wide range of positive effects on those environments.

It is this awareness of the communication abilities that exist among children with severe disabilities, combined with our knowledge of how communication is learned, that directs us to focus not only on the child in our assessment and goal-setting but on the people in the environment as well. When an environment is (a) highly directive and allows few choices, (b) uninviting of communicative acts from the child, and (c) unresponsive to that child's nonverbal signals, that environment and the people in it are targets for intervention, every bit as much as the child is a target for intervention.

Knowledge and perspective about various environments are crucial to a communication team. For example, they alert a team to whether or not an environment is truly inclusionary. An environment that does not invite and respond to a child's extant communications repertoire is not inclusionary. As a result, our knowledge and perspective about the ways in which communication skills are acquired require best practices that engineer an environment so that any level of natural or augmented communicative output can be made to function effectively.

Communication and language are learned in the context of their usage with others. This knowledge was initially the product of researchers observing the acquisition of communication and language among children who did not have disabilities. Currently, it is one of the most rapidly developing databases among researchers working with children and youth with disabilities. Basically, this knowledge tells us that, because communicative behavior is an act on other people, it is best learned in contexts where it is used to have effects on others. Thus, these data show that communication is best acquired in actual interaction with others: asking for help, noting events and objects, asking for more, and saying "no, thank you." The interactions used in this teaching involve doing everyday things such as putting things together, learning self-help skills, or working on a specific curricular module.

This perspective is the key to involving everyone in the child's environment in his or her communication learning. It is this knowledge that promotes the co-occurrence of communication and purposeful interaction. It is this knowledge that demands the participation of all of the significant others in the child's world. It explains to teachers why they and their classrooms are critical milieus for communication training. It explains to parents why one-on-one therapy with a speech-language pathologist in a clinic room may be reduced in a child's intervention program.

Issues Surrounding the Current Status of Best Practices in the Communication Domain

All of my observations and experience tell me that when communication assessment and treatment designs fall short of our ideals, it means that the people involved in the program team have not fully applied the rich knowledge base we have about human communication. As I look for issues surrounding our lack of implementation of this knowledge, I find myself reacting strongly to three of the most obvious deterrents to the full implementation of current best practices.

1. *There is a perception that "values-based" educational goals are compromised or distorted by a commitment to identify educational goals that are based on academic substance.* A careful examination of the details of our knowledge base regarding the teaching and learning of human communicative behavior, however, reveals that our knowledge base about human communication is fully resonant and supportive of our values-based goals. Our knowledge that communication is an act on other people directs us to an operational definition of functional communication. It also supports the learning of communicative acts in the context of using such skills; thus, it calls for the use of interactive and purposeful, inclusionary educational settings as the context for communication intervention. By clearly demonstrating that the communicative learning process begins with communicative acts in nonverbal forms and moves on through to abstract language, our knowledge is totally supportive of the use of aided and unaided nonverbal communicative modes. By sensitizing us to the fact that communication allows individuals to have effects on the environments in which they live, work, and play, our knowledge clearly emphasizes the inclusion and the civil rights of persons with disabilities within our society.

Thus, it would appear that there is a strong element of "political correctness" in our values-based goal-setting practices which can sometimes foster an anti-academic bias to our educational processes. Ironically, most of our values-based goals can only be attained if goal-setting and treatment procedures follow the specifics of our knowledge about the teaching and learning of communication acts within our culture's child-rearing practices.

2. *Our knowledge base is underrepresented among all of those helping professionals, parents, and educational administrators who need it.* Many colleges and universities are performing excellently in research and development activities in the domain of severe disabilities. However, it also seems that the majority of our higher education institutions are failing in the task of preparing professionals in speech-language, special education, and related therapies who are competent in applying the communication knowledge that we have been stressing here. In addition, our inservice efforts to compensate for these failures are undermanned and underfunded. If getting knowledge to those professionals and lay people who make our team processes and our teaching efforts responsive to and productive for the needs of children and youth with severe disabilities is important (and obviously it is), then the current levels of resources directed to this task are totally inadequate. To change this

condition, we need massive infusions of monetary and moral incentives that will encourage and allow our universities to meet the educational needs in this domain. Our professional associations, too, must rethink the educational requirements necessary for their respective disciplinary representatives to function appropriately and adequately to meet the needs of children and youth with severe disabilities. Speech-language pathologists must be able to assess individuals in meaningful and functional ways and be able to contribute to setting goals that will truly improve a child's ability to have effects on his or her environment. Teachers must be able to engineer classroom milieus so that children with disabilities have opportunities to learn and to use effective communicative repertoires. Parents must learn to translate their subjectively generated goals into objective goals that can be systematically targeted and engineered in all of a child's environments. Occupational therapists and physical therapists must be able to identify and teach the small motor acts and overall physical and mobility skills that can contribute to children's access to augmentative devices or enable their production of unaided vocal and gestural communicative acts.

Each of these educational and training needs will require a massive effort. We should be aware that, as we continue to accept the status quo in our training efforts, we are enabling the continued neglect of these needs.

3. Current efforts are simply not rigorous enough and reflect a basic underappreciation of the scope of the changes that must be made. In some ways, issues subsumed under this rubric return to my points about the rightness of our values, the effectiveness of our rhetoric, and the design of our educational team processes. Basically, our moral stand is so high, our rhetoric so good, and our team processes so elegant that they make it easy for us to confuse words with deeds. It is relatively easy to underappreciate the rigor and the scope of the changes that need to be made.

If we are to attend to and apply our knowledge base and fully implement the processes we promise, we must alter the total fabric of our educational systems. We must prepare professionals to operate in vastly altered ways, including the sharing of their unique skills and the integration of multiple goals into the activities of the classroom. We must allow some part of our classrooms to be led by student preferences -- something almost heretical to educators who most often focus on tight control of the teaching process. We must alter basic teacher styles so that they will invite and respond to types and levels of communication output that they now would ignore or punish. We must engineer classrooms so that they teach comunicative behavior rather than just language, and so that they leave space in their interactions which invite and wait for communicative input from children with severe disabilities. There are many such changes to be made; as we contemplate only a few of them, I think it is clear that our current efforts reveal that some one or some many have clearly underappreciated the demands that such changes will require.

We must all be fully aware that current best practices in communication demand not just that children with disabilities learn and change, but that *we and our environments* change. Thus, we need to stress more that implementing best practices in meeting the communicative needs of children and youth with severe disabilities is a major and demanding job that we take on fully and with rigor. In this regard, we need to begin to assert ourselves more and insist that the commitment from the political system, the educational system, and the consumer constituency be made more evident. I think it is clear that the lack of adequate political and educational commitment and, thus, a lack of the resources needed to do the job are the major factors in the gap between our rhetoric and our deeds.

What we need in the way of resources is clear from the history of special education. We need financial facilitation and better university responsiveness to provide us with the more and better personnel we need. We also need a renewed commitment to research and demonstrations in this important educational domain. Most of all, as I have said earlier, we need a renewed awareness that, as long as we try to do this massive task with inadequate resources, we are enabling the maintenance of the status quo. Neither we, nor our students with severe disabilities, will catch the dream if the status quo is maintained.

So, as we spend the next two days analyzing and appreciating our values, our knowledge, and our ongoing processes to assure appropriate attention to the communication needs of persons with severe disabilities, it might be good for everyone if we admitted that we have far to go in implementing our words and our knowledge. At the same time, however, we can be assured that the means are there, if we will but seek them out and apply them rigorously.

I can only hope that you will accept these remarks as support of our mission here and in the future. I hope that, in our deliberations in the next two days, you will be thinking ahead to what we each can do to get this rich lode of substance and knowledge provided by the authors of our symposium papers into place and functioning in our educational institutions. It's a wonderful job, and it is ours to do.

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Maximizing Family Participation in the Team Process

by
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The Parents' Place of Maryland

A parent discusses why parent / professional teaming is important to maximize benefits for children and youth with severe disabilities.[1] *One family's experience with the impact of disability is described. Strategies for effective parent / professional teaming are outlined. The need for collaboration in creating inclusive schools is also discussed.*

I share first with you an "observation about life" from a delightful book called *Lizard Tales* by William R. Davis (1988).

> *Iron and Steel lizards are very good little lizards. As a matter of fact they can be especially dear little lizards -- assuming, that is, they've been properly tempered. In the shadows of a blast furnace two of these lizards were talking. They said, "What I like to hear are experts. A week isn't complete anymore unless I can listen to at least one expert. An expert, after all, is someone who can speak with absolute authority -- and certainly in these unsettled times the world needs experts who can speak with absolute authority.*
>
> *What about yourself, by the way. You've studied, you've traveled, you've written, you've lectured -- can you brighten my week along the lines I've just mentioned? Tell me something you can say with absolute authority."*
>
> *"Very well. No matter what the circumstance I rarely know exactly what I am talking about -- and I can say that with absolute authority."* (Davis, 1988)

I am no expert on communication, and I am no expert on children and youth with severe disabilities, but I am a parent who has dealt with lots of parents and professionals, and I do have thoughts to share. For sixteen years, I worked at the Association for Retarded Citizens (ARC) in Montgomery County, Maryland. I talked with many parents of children with mental

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retardation who were searching for answers. Today, I am the Co-Director of The Parents' Place of Maryland, a Federally-funded parent training and information center that helps families to, among other things, negotiate the world of special education. In this capacity, I again have the opportunity to talk with many parents.

Those students with serious communication problems or with other severe disabilities -- who, under public law, entered schools at kindergarten age -- are now graduating. The regulations governing Public Law (P.L.) 94-142 indicated that the parents of these children would have the right to participate throughout their children's school careers as equal members in the team process. And yet the very same concerns that I listened to from parents in my role at the ARC, I hear now from new parents.

Parents arrive at individualized education program (IEP) meetings anticipating cooperation, only to find, in the middle of the table, brochures explaining how to file for due process. A father who is a lawyer in the Civil Rights Division of the Justice Department told me of his feeling of intimidation when he walked into the room of seated strangers who were there to discuss and assess and make decisions about his young son. If a civil rights lawyer is intimidated, how must the single parent for whom English is a second language feel? Other parents talk about their vision for an integrated school day in the neighborhood school for their daughter with severe disabilities, and teachers and therapists look stunned. The school administrator patronizingly explains why the child's "problems" preclude her from being in a typical setting. There will clearly be no teaming.

Parents are informed in letters that their children are being returned to the community from residential placements, but the parents are not advised that appropriate accommodations will be put in place.

Parents feel judged -- for their child's behavior, for their child's disability. They feel no sense of partnership. The law got us in the room, but it didn't guarantee that our voices would be heard.

Recently, I sat with a mother at a placement meeting regarding the needs of her five year old son. Listening to a brutal evaluation, she tried to brush away the tears as they spilled. Not one school system professional acknowledged her feelings; their judgements concerning the child droned on.

What parents want is to feel that people in school systems care about their children. Instead, they themselves feel disrespected and intimidated. Until parents are truly valued as the experts they are concerning their own children, until they are respected for their contribution as "home information specialists," our schools will continue to foster angry or fearful families.

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I will discuss strategies for involving and empowering parents. What needs to be said upfront is that attitudes can get in the way of collaboration. Parents *and* professionals have valuable perspectives to contribute; those perspectives and the goals and expectations for the child are not always in agreement. This truth should not be seen as a deterrent to setting up the best possible education for the child but, rather, as an opportunity to share ideas, expand horizons, and arrive at consensus.

If professionals are to be effective in communicating with parents, they need to take the time to understand the parents with whom they deal. Each parent of a child with a severe disability brings a history. We carry throughout time the memory of when we first learned that our lives would never be the same. Helen Featherstone (1982), in her remarkable book *A Difference in the Family*, expresses it this way:

> *When I was twenty-five, a friend told me that her brother had been killed in a motorcycle accident two years earlier. She said, "Nothing bad ever happened to me before." I turned this statement over in my mind for a long time. What could she mean? Bad things happen to everyone -- even the luckiest people. Two years later I learned that my newborn son was blind; on that day I remembered her words. Now I understood them. I knew that nothing bad had ever happened to me before.* (p. 4)

Every future encounter with every professional is affected by that first experience. If professionals can understand some of that early impact, they will be able to understand and team with parents.

Allow me to share one parent's perspective. While the stories and the details of other families will be different, the feelings are universal.

I am the mother of two daughters and a son. All three of my children are special, unique individuals. It is my middle child who has been my teacher and guide, the catalyst for my professional life and my personal values. It is because of her that I have found my voice, that I feel passion about issues affecting the conscience and mores of our country. It is because of this daughter that I can address the issue of parent/professional collaboration.

The young woman of whom I speak was mainstreamed into our family 28 years ago. She carries a variety of labels. The one we use is ... Leslie. After a difficult birth and an operation to remove a multicystic kidney when she was less than three days old, Leslie came home. She was a sweet, quiet, placid baby with eyes that crossed but did seem to follow movement. But early, so early, I recognized significant differences. Her head continued to need support; her sister Laurie had held her head up within a few weeks. Leslie moved so little. She didn't do the wonderful, physical, baby things I remembered with my older child. She wasn't hitting the developmental milestones in the books I pored over. My pediatrician assured me that my fears were groundless, that I was being unfair in comparing Leslie to her precocious older sister.

I found my answer when Leslie was seven months old. I finally persuaded the pediatrician to refer us to a specialist. After a five minute examination of my baby, the neurologist we saw asked us to sit down. It was his judgement, he said, that she would never learn to sit, stand, walk, or talk; never care for herself; and that, if pressed to define her I.Q. -- and I can assure you we were far too numb to be pressing anything -- he would evaluate her at about 15 to 20. He also asked if he could perform a tissue biopsy on her leg muscle for a research experiment that he was doing. At that point I was able to find my voice.

The umbrella label he offered was "brain damage, etiology unknown." One subcategory, back then, was profound mental retardation. This pronouncement was not accurate. A story to illustrate: Leslie was the star recently in a small theater production for adults with disabilities, and she later told me that, following the Saturday afternoon performance, she had to take a nap. "A nap!" I said, responding to her tone. "In the middle of the day?" "Yes," said Leslie. "*I* was not tired. My head was tired." Those of you who have given speeches, held workshops, or taught classes know that she has captured the essence of the experience. To paraphrase a recent book title by an advocate (Kaufman, 1988), Leslie may be retarded but she sure isn't stupid!

A second label was orthopedic handicap. Leslie crawled for the first time when she was six years old. She has no trunk control; years of physical therapy have taught her reciprocal motion, which aids her in doing transfers from her wheelchair, but it will never teach her to walk.

Leslie has a chronic health condition. She is prone to migraines; on 5 occasions in her 28 years, they have been hemiplegic migraines, which paralyze one side of her body and, depending on the side of the brain affected, can cause her to became aphasic as well. Her first massive episode at age 11 sent her to a residential rehabilitation school 326 miles away from us for 15 months. She literally had to learn to talk and use her body again.

Leslie is speech-impaired. It takes people new to her a bit of time to understand her. But it's worth taking the time; she has interesting observations to make. I was at her apartment recently when the phone rang; the call was for Leslie. I watched her response, realizing rather quickly that it had to be a telephone solicitor on the other end. After several minutes, Leslie spoke for the first time since her initial "Hello." "I not want to take it," she said. The person who had called hung up, and Leslie did, too. I asked her, "What was he saying?" "He say, Lip, yap, yap, yap." "You know," I told her, "You don't have to listen all the way through." She gave me a Leslie look. "Mom," she said, "I not want to hurt his feelings!"

Back in the beginning days, there was no humor, no relief. I didn't cope well following the initial diagnostic trauma. For a while, I saw only what the labels conveyed, not the sweet baby I held and nursed and loved. This is a sentiment I've heard from many parents as they learn to adjust. I felt devastated, depressed, lonely, and isolated. Ken Moses (1987) tells us that "parents grieve for the loss of dreams that are key to the meaning of their existence" (p. 8). Our dream had been shattered.

As each child is unique, so is each history. And we each have our history. But for all families, there are some universal truths.

All parents of children with disabilities go through the same emotions. There is worry, guilt, anger, resentment, helplessness, and often conflict within the family itself about what to do and how to do it. We mourn the child we had imagined, while we deal with the child with whom we live. And at this time of great vulnerability, we question our whole ethical, moral, and religious structure (Roos, 1975). We come suddenly and emphatically to realize a truth that comes to all humans in time: that our lives are often determined by events over which we have no control.

Along our path, we encounter all too frequently those who reject us. To be a parent of a child with severe disabilities is to know prejudice. I will never forget the August day when Leslie was eleven years old and beginning that long, slow recovery from her first massive hemiplegic migraine. She had been a month in the hospital and was at home for six weeks with us before leaving for the residential rehabilitation school that would teach her to talk and move again. Because she was unable to manage the regular swimming pool, we had placed her in the wading pool. There she spotted a toddler sitting across from her. For the first time in over two months, she managed slowly -- so slowly -- to get in a crawling position. I held my breath as I watched her slowly -- so slowly -- begin to crawl toward the little one on the other side. And then, suddenly, there was the click of shoes. A streak of anger that was the toddler's mother ran by, swept her small son into her arms. I can still see the furious look she aimed at her apologetic husband who had allowed this "menace" to confront their baby. That menace was my daughter. The experience left me shaken to the very core of my being. Perhaps, in some ways, it has helped me to understand the value of inclusion, of integrated settings for all children. At the time, it was the most painful rejection and devaluation I had ever felt.

And, yet, this is but part of the experience. Along with the pain, happily, comes joy and amazement and knowledge. A disability confronts us with serious problems. It can also mobilize positive forces we would never have dreamed possible. It can lead to astonishing transformations for some of us. I quote from a book called *The Siege* (Park, 1988), which I found early in my learning. It sustained me in those difficult years. It was re-released with an epilogue from which I quote. Clare Claiborne Park's daughter, Jessy, is the age of my Leslie. Park continues to express truth as I, too, know it:

> *Growth is endless and our lives change and change us beyond anticipation. I do not forget the pain - it aches in a particular way when I look at Jessy's friends [her*

> *paid companions], some of them just her age, and allow myself for a moment to think of all she cannot be. But we cannot sift experience and take only the part that does not hurt us. Let me say simply and straight out that simple knowledge the whole world knows. I breathe like everyone else my century's thin, faithless air, and I do not want to be sentimental. But the blackest sentimentality of all is that ... which will not recognize the good it has been given to understand because it is too simple. So, then: This experience we did not choose, which we would have given anything to avoid, has made us different, has made us better. Through it we have learned the lesson that no one studies willingly, the hard, slow lesson of Sophocles and Shakespeare -- that one grows by suffering. And that too is Jessy's gift. I write now what fifteen years past I would still not have thought possible to write; that if today I were given the choice, to accept the experience, with everything that it entails, or to refuse the bitter largesse, I would have to stretch out my hands -- because out of it has come, for all of us, an unimagined life. And I will not change the last word of the story. It is still love.* (Park, 1988, p. 320)

Before Leslie was three years old, we had dealt with an obstetrician, a pediatrician, a pediatric surgeon, an ophthalmologist, an audiologist, two neurologists, a child development specialist, a physiatrist, and a geneticist. In the next few years were added a dentist, a periodontist, an orthodontist, nurses, intensive care personnel, physical therapists, occupational therapists, music therapists, speech pathologists, and teachers. Few of these encounters were of our choosing. We were sometimes patronized, more than once ignored, frequently pitied. On occasion, we were respected and listened to; we remember those occasions with pleasure.

My solution to maximizing family participation in the team process is common sense. It does not require magic or new and esoteric approaches. Some school systems have developed written strategies for collaborating with parents of children in regular education; I refer you to one compilation of strategies for parent involvement available from the Office of Community Education, Massachusetts Department of Education (n.d.). Their list is equally applicable to parents of children with disabilities. To maximize family participation in the team process asks only for professionals to listen, to understand, and to respect us.

If professionals in the schools can understand where we parents come from, what experiences have shaped our expectations of them, then new kinds of relationships can happen. We need to be seen as individuals, rather than stereotypes. We are not necessarily "the overprotective mother" or "the rejecting father," any more than you are "the insensitive teacher" or "the uncaring administrator." We parents come in different packages, in all shapes and sizes; we span the continuum. We need to be known, as do our children, in our totality, people with strengths as well as needs. Trust and accept us. Do not ignore or tolerate or humor or dismiss us. When you stop judgement, we *will* be open to you.

We don't need your professionalism; that causes an unbridgeable gulf. We need empathy, Karl Roger's "unconditional positive regard," we need respect, we need to have our contribution valued. We need to participate, not merely be involved. It is, after all, the *parent* who knew the child first and who knows the child best. We parents dream the dream for our children's future. Our relationship with our sons and daughters is personal and spans a lifetime.

I am suggesting that, to create true collaboration, the professional has the major responsibility to change his or her attitude when problems occur. It is the professional who must acknowledge and validate families, who needs to accept parent feelings of distress and even anger.

The following questions are for administrators, teachers, therapists. Do you listen? Or do you participate in what I used to call "The Mother Says" syndrome? Leslie's earliest medical files are filled with negative reports of all the things she couldn't do, the deficits. They would conclude with a paragraph that began with the words "The mother says" and outlined what I reported I was seeing at home. The tone was skeptical and dismissive. I soon stopped sharing.

Do you label all parents as uncooperative or uninvolved because of the few who are? To add perspective, not all parents of typical children are required or expected to be totally involved.

Do you look at the important roles cultures and religion play in how families learn to cope? Attitudes and customs in a child's home may be radically different from your experience; true teaming involves understanding.

Do you help to promote hope, to sponsor the vision of participation in an inclusive setting, life in the community, no matter how severe the disability? We need to hope; without it, we are paralyzed.

How are parents included in team meetings? Do they have a voice? Are they looked to as experts on their own children? Are they asked to share their thoughts and wishes, to describe what would contribute to the family's well-being, as well as to the child's learning? I remember the description of the teenager whose only spontaneous movement was in one hand. For years, physical therapy had been used to try to loosen his tight muscles. A new approach caused something of real significance to happen. In thinking through how this movement could be used in the life-space of this young man, the team of parents, therapists, and teacher decided on a new goal, one in which he would learn to open the lid of a peanut butter jar. As a result of therapy designed to accommodate family interests, this young man could come home from school and open the peanut butter on which he and his younger siblings snacked. It made him proud, it gave him a real place in the daily routine of his family. It was a team decision that made sense.

Is the IEP truly a team effort? Computerized IEPs don't feel individualized to parents. Even if the word "DRAFT" is stamped across the top, parents feel decisions are already in place. Do you share the IEP in advance of the team meeting? Do parents know they can add to a draft, subtract from it, throw it away, or bring in their own?

Do you communicate with parents only through form letters? Or when something goes wrong? Parents of children who can't communicate themselves really appreciate the daily notebook, the phone-in hour.

Do you write and talk to parents in clear, understandable language? Jargon is the shortcut you can use with fellow professionals; for parents, it's an obstacle to understanding. Plain English can be a very good strategy for real teaming. Do you share with parents copies of all reports about their child? Do you try to keep those reports jargon-free?

Do you help parents understand why they're asked to do particular activities at home to further communication skills?

Do you suggest or do you decree? What should a mother say when a speech pathologist talks about the latest augmentative communication device? The mother may know unequivocally that it will be rejected by her child, but how does one share this with an expert without appearing uncooperative? We collected lots of dust-catching equipment recommended by therapists in Leslie's early years; it takes time for a parent to feel empowered enough to question, to challenge.

Do you remember that a team is a group of players all playing on the same side? Just as individual members of a baseball team have different contributions to make, so do the individual members of the team that is designing the IEP for each child. As the professional, you bring your valuable expertise. The parent brings his or her own unique and equally important perspective.

Do you take the time to prepare for meetings? I remember a placement meeting when the chairman referred to "your son, Leslie." Fortunately, I have a sense of humor!

Where do you hold meetings? There will be some parents who would appreciate meetings in their homes. There will be others who feel fright at coming into the school building. Would it be possible in those cases to meet on neutral ground: a community center, a library? One principal in my home town holds a potluck dinner for parents a week before school opens. He gets a willing parent to help organize it, and it takes place in a meeting room in a huge apartment complex where many of the children live. He shares proudly that all the parents of the children in his school who receive special education services come to team meetings.

What is the room like where you meet with parents? Must there be the dreaded rectangular table? A round table would contribute so much more to a sense of partnership.

Do parents know why the meeting is happening, who will be there, and what to expect? If they arrive early, is there a comfortable place to wait?

Is everyone seated around a table when parents are ushered in? It is overwhelming to walk into a room of seated professionals, all looking at you, the last arrivals. At the least, if the school team members are standing, parents won't feel on exhibit or like outsiders.

Do you take the time to identify everyone in the room by name and area of expertise? Perhaps each professional could say a few words about the way in which they know the child. Extra minutes at the beginning of a meeting may forestall many angry minutes after the meeting.

What is your communication style? Do you speak in a warm tone, do you smile, show concern? Does your body language indicate openness and interest? What image do you project? A special education teacher in my school system is referred to by parents as "Miss Perfect." They don't feel comfortable when they talk with her. One of *my* very best happenings was the time early in my career when I was going to speak to a group. I had taken special pains to look competent and confident. My hair was in order, my makeup was just right, my dress was new and professional. When I got out of my car in the parking area to go into the meeting, I suddenly realized that I was wearing my fuzzy pink slippers. It was a humbling experience and one I came, later, to appreciate. I learned that day not to take myself so seriously.

Do you include the student in meetings? Students with even the most severe disabilities have ways of telling us important things. A child's behavior or gesture may indicate that the choice being discussed is the wrong choice. All people are entitled to have some control over decisions directly affecting them.

Are the student's brothers and sisters invited? They often have valuable ideas and observations to share. The student's same age peers -- neighbors, classmates, friends -- may have new strategies to propose.

Do you suggest that parents bring along a relative or friend? It is very helpful to parents to have someone with whom they can process the content of a meeting when the meeting is over. If that suggestion were to come from the school, it would truly imply cooperation and understanding of how difficult meetings can be for parents.

Do you really understand and believe that parents are valuable team members? It is important to remember that decisions made in each meeting can have a long-term effect on the life of an individual. A goal in Leslie's IEP for several years running was to tie her shoes. She worked hard to meet the goal, both at school and at home. And one wonderful day an excited voice summoned me. "I did it, Mom! I did it!" And she had. Her shoes were tied; loosely, but tied. We all reinforced her with praise and excitement. The next morning, I put her shoes next to the pile of clothes she had helped to select and turned to the door to allow Leslie the necessary time to dress herself. An incredulous voice stopped me. "You mean," she said, "you mean I have to tie them forever?" Think of all the time that was wasted on the goal of shoe-tying. Velcro works just fine!

In discussing goals, do you talk about quality of life, satisfaction, choice, self-determination, empowerment? Do you look to the student's future? Where he or she will live, work, learn, communicate, and play when school days end? These are important issues to focus on, even in the earliest years.

How do you express yourself? It is devastating for a parent to hear a speech pathologist refer to "serious speech delay," even though that parent understands that this is the case. How much more helpful to hear, "We need to work together to assist him in communicating."

Do you follow up meetings with a thank you note? Little things can make parents eager to work with you.

Do you start from the premise that every parent is doing the best he or she can? One mother told me recently, "I chose to be a parent. I didn't ask to be an advocate." Allow parents their own decisions about how and how much they want to be involved.

Look carefully at your attitudes. Are you judgmental? I know my child. I know her medical history and her vulnerability. I should not be called overprotective and possessive. I know my child's limitations. I should not be classified as negative when I acknowledge them. I know my child's gifts and strengths. Don't put me down as unrealistic or unaccepting when I list them.

Do you know the appropriate resources in your state and community which can help you be as effective as possible in involving parents? Local parent advocacy groups can be of significant help to you in your communities. All the states now have parent training and information centers; they can be valuable allies in your learning the best ways to collaborate. State Department of Education conferences, summer institutes, local inservice programs, and other training opportunities might utilize training teams that incorporate a parent, administrator, and educator to share views and perspectives.

Are parents invited to serve on teacher-hiring and planning committees, on parent-teacher task forces, as classroom volunteers? Do all parents feel welcome in your schools?

There are many problems in the educational system of today. Attention is being paid to what has gone wrong. This is the best of times to invest energy in new ways, in new thinking. Rather than continue with what hasn't worked, it's time to start again ... with new values, new expectations, and a new commitment. If educational systems are to be redesigned to produce the best possible citizens of tomorrow, teaming of parents, teachers, administrators, and state departments of education is essential. It will take more than adding on science and math courses. I firmly believe that part of what it will take is including all children in the neighborhood in the life of every school. This will take adjustment and adaptation and technology. It will take enlightened attitudes and principals who are excited by, rather than fearful of, challenge. It will take convincing parents of children with disabilities and parents of typical children that the restructured school is not a "dumping ground" but, rather, a community that can individualize instruction for each of its students. It will take training all teachers about all students. It will take modeling appropriate attitudes for typical students to see. It will take special educators understanding that "special" education is no longer special enough. It is time to move on.

The supports that students with severe disabilities need are not separate facilities and a curriculum based on a developmental model but, rather, circles of friends, opportunities to cultivate self-esteem, and learning the skills necessary for meaningful adult lives in their communities. More and more of today's parents are looking to the neighborhood schools to open their doors. This will require a new kind of teaming that will involve all teachers, all parents, and all students. It is an exciting challenge.

I will end by first sharing with you the summary of an ongoing parent contact at our parent training and information center and then by offering a professional observation. A young man with autism who had been asked to leave two private day programs and who was then assigned to a segregated public school for students with severe to profound retardation is now using facilitated communication. His IQ is currently measured at 116, but since he felt "insulted" by the first day's tests and refused to answer the beginning block of questions, it is doubtless higher. It was his mother who opened his door to the outside world by attending a conference and trying facilitated communication at home. This young man's mother has accomplished what I would hope we could count on from professionals. Never underestimate the drive or the ability of parents as they explore possibilities for their sons and daughters!

Finally, I offer this quotation from a Community Crisis Team psychiatrist in Dane County, Wisconsin: "No family is impossible to work with. If that's your experience, you're not understanding their needs. They'll bend over backwards for you if you do understand."

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Facilitating and Measuring the Team Process Within More Inclusive Educational Settings

by

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The purpose of this paper is to describe how the movement of students with severe disabilities to more inclusive settings impacts on the team process, particularly with regard to the development, implementation, and evaluation of communication intervention.[1] *The characteristics of teams as they operate in more inclusive settings are described first. Secondly, team processes are categorized as team "functions" and team "structures." Team functions include assessment, goal-setting, and service provision. Team structures refer to how teams are organized (e.g., who should be part of the team), roles within teams (e.g., facilitator, observer, recorder, etc.), as well as the mechanisms team members use to arrive at consensus in decision-making. Having the team identify both the vision its members hope to realize and the goals of inclusion for each of the students and families served is fundamental to optimal teamwork. The paper concludes with a series of recommendations that may serve as a guide for future efforts to enhance collaboration among team members working with learners who have severe disabilities.*

The movement of children with severe disabilities to more inclusive educational environments may both complicate and simplify the manner in which goals and strategies for communication intervention are selected, implemented, and evaluated. The potential for complication arises from the sheer number of people (both peers and adults) in those settings who may require preparation and guidance with regard to serving as effective communication partners. The simplification may arise from the presence of multiple, age-appropriate role models for use in communication across a range of settings and the possibility that these peers may serve not only as role models in communication, but that they may also serve as intervention agents as well.

For years, students with severe disabilities have been characterized as being unable to communicate easily or as users of unconventional methods to communicate (e.g., augmentative and alternative systems). In fact, the prevalence of difficulties in communication has been mentioned frequently as a predominant characteristic of students with this disability label (Reichle, York, & Eynon, 1989; Rowland & Stremel-Campbell, 1987; Siegel-Causey &

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Downing, 1987). The likelihood of multiple disabilities in cognitive, sensory, and/or physical processes -- any or all of which complicate assessment and intervention regarding students' needs to improve speech/language and/or communication ability -- suggests that this area of priority needs to be addressed by a *team* of professionals. What impact is movement to more inclusive educational practices having on the team processes that are so much a part of quality educational practices for students with severe disabilities?

Models of Team Functioning

The literature to date on the various models of team functioning is extensive. Historically, the first teams were primarily *multidisciplinary* (i.e., professionals with expertise in different disciplines who evaluated and worked with a child/client individually). This approach was originally designed to meet the needs of people served in medical settings (Hart, 1977). Over time, a second model of team functioning emerged; this model is termed *interdisciplinary*. The interdisciplinary team also included evaluations completed individually; however, in order to reduce fragmentation of services, the team process now included a formal system of communication and the assignment of a "case manager" (McCormick & Goldman, 1979).

Of more recent origin, the *transdisciplinary* team model evolved as a way for professionals to share important disciplinary knowledge and skills with primary caregivers (Hutchison, 1978). This model emerged in recognition of the fact that functioning in everyday routines requires that children perform sensorimotor *and* cognitive *and* communication skills in clusters (Rainforth, York, & Macdonald, 1992). The transdisciplinary model, through an emphasis on sharing discipline-specific knowledge and skills across traditional disciplinary boundaries, was an attempt to promote more consistency in meeting the multiple needs of persons with severe disabilities in the areas of health, motor, and communication. Additionally, it was hoped that the integration of discipline-specific knowledge and skills throughout the school day would permit more longitudinal implementation of specialized strategies and would ultimately result in greater therapeutic benefit.

The transdisciplinary approach provides a new model of *who* provides service. This model is characterized by sharing or transferring information and skills across traditional disciplinary boundaries. The term *role release* is one term for the process of sharing disciplinary expertise (Lyon & Lyon, 1980). However, role release has more recently been conceptualized as only one process in a sequence of six that describe the teaching and learning aspects of transdisciplinary

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functioning. This expanded view of flexible roles is termed role "transition" and is described in detail by Garland, McGonigel, Frank, and Buck (1989). The six processes of role transition are summarized below:

1. *Role Extension.* Role extension may be described as the actions taken by team members to increase their expertise in their own discipline. Actions may include staying current with the literature, attending professional meetings, and other forms of staff development. An example of role extension is a teacher of the visually impaired attending a workshop on how a student's visual field may impact the selection of an augmentative communication system.

2. *Role Enrichment.* Through role enrichment, all team members develop a general awareness of the terminology and basic practices of other disciplines. As an example, the speech and language pathologist might briefly describe for the other team members the differences between "touch" cues and "object" cues in receptive communication intervention for learners with dual sensory disabilities.

3. *Role Expansion.* When a team member acquires sufficient information from other disciplines, he or she can make knowledgeable observations and recommendations outside of his of her own discipline. This is role expansion. An example might be a special education teacher who notes that the angle of the seatback on a particular student's wheelchair restricts that student's ability to engage in face-to-face interaction with peers.

4. *Role Exchange.* When a team member implements the knowledge and skills of other disciplines under the supervision of relevant team members, roles have been exchanged. An example of role exchange is a parent who demonstrates to the speech and language pathologist a play activity during which the child's use of the concept of "more" is encouraged.

5. *Role Release.* Role release allows for the ongoing practice of newly acquired techniques through consultation with a team member who remains accountable for the practice of those techniques. An example of role release is the social worker who provides instruction to a single father regarding the addition of new vocabulary to his son's sign language repertoire.

6. *Role Support.* Role support means the informal encouragement provided by team members to one another, as well as any additional consultation necessary to maintain each other's correct implementation of disciplinary techniques. An example of role support is periodic observation and feedback regarding oral-motor facilitation by the speech and language pathologist to the teaching assistant who assists a learner with physical disabilities at mealtime.

Typically, descriptions of the transdisciplinary model fail to provide guidelines regarding *where* and *in what context* services should be provided. Initially, transdisciplinary services were characterized as parents, teachers, and other service providers becoming "pseudo-therapists," implementing methods associated with various disciplines irrespective of context (Rainforth, York, & Macdonald, 1992). In a parallel development, an approach that addressed the *context* for delivering therapy evolved as well. This approach was referred to as *integrated therapy* (Sternat, Messina, Nietupski, Lyon, & Brown, 1977). Proponents of integrated therapy emphasized that services should be delivered in functional contexts (i.e., when and where a person would naturally use a skill, rather than in isolation from ongoing demands in everyday home, school, and community environments). This approach complements the transdisciplinary model both philosophically and programmatically. Movement of students with severe disabilities to more inclusive educational programs has expanded the range and number of settings in which support from related services personnel is provided.

Another defining characteristic of the transdisciplinary team model is the use of an indirect model of service delivery. Indirect therapy may be described as a form of intervention during which team members teach, consult with, and directly supervise other team members, so that the team members receiving supervision can implement therapeutically-appropriate activities (Association for Retarded Citizens/Minnesota, 1989, pp. 3-4). This form of intervention is in contrast to direct therapy in which hands-on interactions between therapists and students occur. Proponents of the transdisciplinary model do not, however, presume that therapists stop providing direct service. In fact, related service providers would rarely be effective consultants unless they maintain direct, hands-on contact with children (Orelove & Sobsey, 1991b; York, Rainforth, & Giangreco, 1990). An important element of this model is that therapists work closely with other team members (and vice versa), so that the educational and related service goals of each student can be integrated within multiple activities conducted in a variety of settings. The transdisciplinary model requires that the traditional roles practiced by educators and related service providers become more flexible to permit a combination of direct and indirect service delivery. Related service providers who serve as team members in more inclusive educational settings may practice a different combination of direct and indirect therapy as a function of different demands within these settings, although the need for accountability and supervision does not lessen in these settings.

The final aspect of team functioning which has received emphasis in the last few years is *collaboration*. Although a reader of the preceding discussion of the transdisciplinary team process and integrated therapy may have assumed that collaboration is a key element of this model of service delivery, only recently have the *processes* of collaboration been addressed in specific ways. Indeed, while a group of professionals may label themselves a "team," Hutchison (1978), an originator of the transdisciplinary model, states that "calling a small group of people a team does not make them so" (p. 70). Clearly, a fundamental aspect of optimal team functioning is mutual understanding of, and respect for, the skills and knowledge of each individual member (Orelove & Sobsey, 1991b). Thousand and Villa

(1992, p. 76) have defined collaborative teams as those whose efforts are characterized by the following:

> 1. Coordination of their work to achieve at least one common, publicly agreed upon goal (Appley & Winder, 1977).
>
> 2. A belief system that all members of the team have unique and needed expertise (Vandercook & York, 1990).
>
> 3. Demonstration of parity, the equal valuation of each member's input...by alternately engaging in the dual role of teacher and learner, expert and recipient, consultant and consultee (Villa, Thousand, Paolucci-Whitcomb, & Nevin, 1990).
>
> 4. Use of a distributed functions theory of leadership in which the task and relationship functions of the traditional lone learner are distributed among all members of the group (Johnson & Johnson, 1987a, 1987b).
>
> 5. Employment of a collaborative teaming process that involves face-to-face interaction; positive interdependence; the performance, monitoring and processing of interpersonal skills; and individual accountability (Johnson & Johnson, 1987a, 1987b). (Citation from Thousand & Villa, 1992, p. 76)

The movement to more inclusive educational settings does not preclude the adoption of a truly collaborative, transdisciplinary team that operates in integrated settings using a mixture of direct and indirect service delivery. In fact, team processes characterized by the elements described above are a necessary component of such a change in service provision. It is only through the combined expertise of multiple specialists (including both regular and special educators, related service providers, parents, and peers) that meaningful learning opportunities for a diverse student population (including students with severe disabilities) can be provided. This philosophical position typically involves a rejection of the more traditional, narrow view of professional responsibility in favor of group decision-making, which is the hallmark of the collaborative team process. In fact, collaborative teams and the group decision-making process have been mentioned frequently as a key element in successful school restructuring efforts (Stainback & Stainback, 1990; Thousand & Villa, 1989, 1991).

Clearly, team processes that are characterized by role transition, flexibility in terms of where and when therapy is delivered, and collaborative practices are an important element of the movement to more inclusive educational practices. For students with severe disabilities, the needs addressed by related service providers (i.e., language/communication, movement, sensory functioning) underlie the ability of students to function across the curriculum and within the full range of settings these students access. Sharing information across disciplinary boundaries is *essential* if students are to benefit from special education in these settings.

Team Structure and Functions

Orelove and Sobsey (1991b) defined the nature of transdisciplinary team functions as occurring in three distinct areas: (1) assessment, (2) goal setting, and (3) service provision (both instruction and therapy). However, discussions of team functions provide an incomplete description of the factors related to teamwork within more inclusive settings. Of equal importance is *how* the team is structured (e.g., the belief system adopted by the team, interpersonal skills, etc.).

A description of current practice, as found in the literature regarding the structure and functions of team participation, follows. Unfortunately, most sources separate team functions from team structure. This dichotomy may obscure the fact that the ability of a team to complete a variety of functions (e.g., service provision) is *enhanced* if that team is characterized by the use of a variety of effective team structures (e.g., an established set of rules regarding how conflict is resolved). The following section is an attempt to *synthesize* key information on team structure and functions.

Assessment

The literature on team assessment may be organized as those sources that focus on discipline-specific assessment (i.e., the completion of discipline-referenced measures specific to a professional's particular area of expertise), and those sources that address how team members interact around the function of assessment. An emphasis on discipline-specific measures, such as those related to articulation, phonation, or developmental "levels" of receptive and expressive communication, may suggest that assessment for students with severe disabilities should be conducted for the purpose of determining whether a particular student is a *candidate* for communication intervention (Musselwhite & St. Louis, 1988). The candidacy model has been replaced, however, by one that emphasizes that *all* students are entitled to participate in communication intervention (Mirenda & Iacono, 1990; Rosenberg & Beukelman, 1987). A decision by the team to adopt the participation model of communication intervention is compatible with service delivery in more inclusive settings. Adoption of the participation model requires that ecological assessment processes be emphasized. Ecological processes are those in which a variety of relevant school, home, and community environments are surveyed to provide information regarding meaningful activities in which that student may be expected to communicate. Knowledge of the current and future settings in which students function may provide helpful information to be used by the team during one of their most important functions -- namely, goal selection as it relates to communication modes and systems. Ecological assessment should also include consideration of the number of potential communication partners, as well as the context in which communication is likely to occur (Rogers-Warren, 1984). See Sigafoos and York (1991) for more information about ecological assessment of communication behavior.

Correia and Sobsey (1984) outlined an eight-step evaluation process that includes a natural sample of a person's communication ability. This natural sample is conducted at a time and place recommended by significant others in that person's life, as determined through an interview. A second, more structured, an elicited sample is conducted as well.

Sources of information regarding *how* all team members interact regarding the assessment process are less plentiful than those describing what and where to assess for the purpose of communication development. There are, however, occasional mentions of the value of having multiple team members participate in assessment. Orelove and Sobsey (1991a) emphasize the role of occupational and physical therapists in assessing movement patterns for the purpose of designing an individualized graphic array. Siegel-Causey and Downing (1987) stress that an adequate evaluation of nonsymbolic communication must be done in conjunction with other team members who assess vision, hearing, neurological status, perceptual-motor skills, and social competencies. Downing (1990) suggests that all team members share their skills and expertise to provide information on a student's communication skills. She provides this example:

> ...the parent and special educator can provide information related to environmental communication needs, the physical therapist can provide information related to certain body positions that encourage arm movement to access a communication device, the speech-language pathologist can provide information about the student's symbolic and non-symbolic communication abilities, and the orientation and mobility specialist can provide information related to the student's visual requirements for developing a portable communication mode. (p. 22)

Beyond the sources reviewed above, there are relatively few mentions made of the contributions of various team members during assessment for the purpose of communication skill development. There is, more than likely, an assumption that all relevant team members conduct their specific, discipline-referenced assessments, with the outcomes of those assessments to be shared at a meeting devoted to the second function of teams -- that of goal-setting. Although it may be appropriate for various team members to independently assess a child to obtain information regarding particular strengths and vulnerabilities, the completion of separate, discipline-referenced assessments should be followed by more ecological measures.

Baumgart, Johnson, and Helmstetter (1990) describe a method of using daily routines to select and implement a communication system. They outline three steps to be followed during assessment:

- examine existing signals in typical schedules (i.e., in terms of their content, form, function, and context);
- collect information from other sources (e.g., retrospective and anecdotal sources, direct observation); and
- answer nine specific questions (e.g., what behavioral forms or signals does the individual use in various settings?).

With direct observation, it may be appropriate to conduct the ecological measures jointly with other team members to aid in interpretation of a child's response (e.g., intentional versus reflexive) and to share disciplinary perspectives on whether a particular response should be encouraged or discouraged. For an example of the latter situation, a teacher of visually impaired students and an occupational therapist may both observe a child's ability to access (both visually and physically) a potential graphic communication system positioned on the student's wheelchair tray. The teacher may observe that the student is able to access the entire tray visually. The occupational therapist, however, notices that intentional movements to objects on the left side of the graphic display produce increased tone, longer latency to touch, and apparent high energy expenditure and reduced accuracy to touch those objects. In this example, when direct observation is conducted together, both team members share their perspectives and jointly recommend placement of the display to the right lateral half of the child's body. This process is superior to the alternative possibility that may have resulted if both parties arrived at the planning meeting with contradictory recommendations.

Goal-Setting

There are two systems that address in specific ways how teams interact regarding the process of goal-setting. Both systems address goal-setting in the area of communication as one component of a more global goal-setting process.

The first system to be discussed was developed by Giangreco, Cloninger, and Iverson (1991) and is entitled C.O.A.C.H. (Choosing Options and Accommodations for Children). C.O.A.C.H. consists of a three-step model that begins with an interview conducted by one or two team members in order to obtain family priorities referenced to a series of "quality of life" indicators (e.g., "Having a safe, stable home; Having a level of choice, control, and independence that matches the person's age"). The interview continues with team members guiding the family through a series of curriculum lists that describe activities and/or skills organized according to whether the skills/activities (e.g., communication, socialization, etc.) occur *across* environments or are specific to certain environments (e.g., home, school). Family members rate each curricular skill or activity as a potential priority for the current or upcoming school year; they also rate their child's relative ability to participate in each activity. The four-point rating scale they use ranges from "resistant to the assistance of others" to "skillful." Following the initial review of the curriculum lists, a series of steps is taken that results in a refined set of parental priorities for the student.

At this point, the second stage of the C.O.A.C.H. process is undertaken. The parent priorities are restated (in draft form) as annual goals. This draft list of goals is then shared with the remaining team members. A series of additional steps is carried out which results in all team members addressing the "breadth of curriculum" (based in part on the general education learning outcomes associated with the grade level appropriate for the student's chronological age) and "general supports" (those services provided *for* a student, such as attending to personal needs, providing access, and teaching others about the student). The process concludes with development of a series of short-term objectives.

The third component of C.O.A.C.H. moves from a discussion of team functions to one that focuses on team structures -- specifically, to a series of guidelines regarding the organization of the teaching team. Such elements as assignment of responsibilities, scheduling of team meetings, and identification of planning time are described in this section. This component also describes how the team addresses educational program components within inclusive settings. Topics include how the team schedules for inclusion, as well as how team members plan and adapt inclusive learning experiences. Scheduling for inclusion is accomplished through the use of a scheduling matrix on which the individualized education program (IEP) priorities, breadth of curriculum, and general supports are listed on the vertical side of a matrix, and the schedule of general class activities is listed across the horizontal side. A sample scheduling matrix is shown in Table 1. Team members use the matrix to guide a meeting process described by Giangreco, Cloninger, and Iverson (1991) in the following way:

> Team members consider which IEP priorities, breadth of curriculum areas, or general supports could possibly be addressed within identified classes or activities. Starting with the first listed general class activity and the first IEP goal, the group asks, "Are there any opportunities to address this goal in this class or activity?" If any team member believes there is a possibility, it is described to the team. Then the team repeats the process for the rest of the IEP goals. (pp. 83-84)

As mentioned earlier, goal-setting with regard to communication is a component part of overall educational planning. The skill/activities lists that serve as the basis for generating goals (both as part of the family prioritization interview and the process of determining the "breadth of curriculum") include

Table 1

Sample Scheduling Matrix Adapted from the C.O.A.C.H. Model (Giangreco, Cloninger, & Iverson, 1991).

		SCHEDULING MATRIX General Class Activities								
Name: Cheryl K.		Home Room	Soc. Studies	Science	P.E.	Lunch	Study Hall (Replaced w/CBI)	Math (Continue CBI for 1st Sem.)	Lang. Arts	Art
Grade: 7		20 min.	50 min.	50 min.	50 min.	25 min.	35 min.	50 min.	50 min.	50 min.
IEP Priorities	Follows instructions	x	x	x	x	x	x	x	x	x
	Uses money					x	x	x		
	Manages personal belongings	x	x	x	x	x	x	x	x	x
	Summons others	x	x	x	x	x	x	x	x	x
*Breadth of Curriculum	Applied academics	1,2	1	1		1,2	1,2	1,2	1	1
	Socialization	3,4	3	3	3	3	3,4	3,4	3	3
	Physical ed.				5,6					
	School	8	7				8	8	7	7
General Supports	Teaching others about the student	All staff and students must be oriented to, and taught about Cheryl's communication system.								

*Breadth of Curriculum Learning Outcomes

Applied Academics
1. Reads symbols
2. Uses clock/watch

Socialization
3. Greeting behaviors
4. Accepts unexpected changes in routine

Physical Education
5. Participates in group activities
6. Follows game rules

School
7. Works at task independently
8. Travels to and from school

elements of a functionally-based, easy-to-hard sequence in a domain area and other activities/skills that may be thought of as representing "best practice." In the area of communication, the activity/skill list contains twelve items. The list begins with the potential goal of having the student "indicate continuation or express more," to "make choices," to several items that represent typical expressive and receptive communication and language functions. Of the nine skill/activity lists that compose a key element of goal-setting in the C.O.A.C.H. process, the communication list is the *first* list to be completed by parents and other team members.

The second system designed to be used by teams in the process of goal-setting is an outgrowth of the Vermont Statewide Systems Change Project (Fox & Williams, 1991). The product, which describes the process of promoting more inclusive educational practices, is devoted almost exclusively to a description of two teams: the "School Planning Team" and the "Individual Student Planning Team." This comprehensive work of Fox and Williams (1991) addresses team structures as well as the team processes of goal-setting and planning for inclusion. These authors also address goal-setting in the area of communication as one element of several addressed in the process. Again, as in the C.O.A.C.H. model, communication is the first of several skill areas considered in team planning of a student's educational program. In this model, however, a distinction is made between the areas of "communication" and "language." Communication is conceptualized as consisting of skills such as "showing preference," "indicating rejection/protest," "indicating wants and needs," and so forth, while the language skill area consists of skills such as "following directions," "receptive and expressive vocabulary," and "relational concepts."

Within the Vermont Statewide Systems Change Model, the team process of goal-setting is preceded by another process in which a number of issues labeled "fundamental values" are addressed. The process of considering a number of fundamental value areas in program development is designed to help team members select those fundamental values that represent priority areas for students and their families. The fundamental values reflect selected areas the team should attend to in overall educational planning for all students. Examples include: academics, social acceptance/friendship, self-concept/self-esteem, and inclusion in integrated activities. Again, there is some overlap between the fundamental values identified by Fox and Williams (1991) and the "quality of life indicators" within the family prioritization interview that is a key component of C.O.A.C.H. (Giangreco, Cloninger, & Iverson, 1991).

It is noteworthy that the two well-developed sources for team structures and functions related to goal-setting within inclusive settings address parent and professional values as a component part of the process. The need for team members to articulate their values as an initial step of collaborative team functioning is well supported in the literature (Parnes, 1988; Schlechty, 1990; Villa & Thousand, 1992).

The process of values clarification is typically addressed through joint development of a "mission" or "vision" statement that is then assumed to clarify the standard against which team members will evaluate their various structures and functions throughout the school year.

Simply completing a mission/vision statement process may, however, be insufficient to provide guidance to team members regarding whether or not the outcomes of various team processes match that mission/vision statement. Fox and Williams (1991) address this problem. They suggest a somewhat lengthy process during which school district personnel reach consensus regarding a series of best practice guidelines. The guidelines are then regarded as one standard against which team structure and functions are compared. The process consists of school district personnel reviewing, through a questionnaire, a set of 54 best practice indicators. The best practice indicators are categorized according to several areas including "school climate and structure," "collaborative planning," "social responsibility," "curriculum planning," "delivery of instructional support services," "individualized instruction," "transition planning," "family-school collaboration," and "planning for continued best practice improvement." Each team member reviews the best practice indicators to decide whether he or she agrees that it is a relevant part of the standard to guide the team. If agreement is expressed, the team members then evaluate the relative need for improvement in the school regarding the degree of need to promote implementation of the best practice indicator, and whether the indicator is a "priority." After a set of priorities is selected, team members then decide whether improvement with regard to that indicator is a matter of school policy, a "systems issue," or can be addressed through additional instruction of team members, parents, students, or school faculty and/or staff.

Another way in which the relationship between values and goals can be linked is by establishing a set of criteria against which potential goals and/or solutions to particular problems can be compared. This process can be one of the final steps in a series carried out by a team in one or more generic problem-solving processes. Typical steps in problem-solving methods include those related to: (1) problem identification/clarification, (2) brainstorming, (3) selection of potential solutions, and (4) action planning. Using a set of criteria to assist team members in selecting a solution compatible with fundamental goals (or a team's mission or vision statement) would occur at the fourth step in the problem-solving process. Although most problem-solving methods are designed to help team members do just that, the step of "checking" potential solutions against a set of criteria or the mission/vision statement may assist team members in generating outcomes that are consistent with their stated mission.

Service Provision

The third team function is providing services that will promote a student's acquisition of individualized goals. Teams that operate in more inclusive educational settings must determine, on an individual basis, the roles and responsibilities that each team member implements. As described earlier, teams that provide educational services in more inclusive settings are characterized by elements of collaboration and the transdisciplinary model. These teams provide a flexible mix of direct and indirect therapeutic services in a programmatically integrated fashion. Each of the characteristics is discussed in more detail below.

Collaborative and transdisciplinary service provision. Services that are collaborative and transdisciplinary are those in which the contributions of a range of professionals are shared across traditional disciplinary boundaries in a cooperative rather than competitive manner. Students with severe disabilities often present challenges that may be supported through the expertise of a range of professionals. A primary challenge is the need for students to have a communication/language system that enhances the student's participation within inclusive settings. Following goal selection in the areas of communication and language, a series of steps can be implemented that assist the team in deciding which members will contribute to the design and implementation of the student's program.

It is important to recognize that the essential nature of human communication requires that decisions regarding service provision in this therapeutic area be done somewhat differently from other related service areas. Although *selected* team members may provide input to the design of a communication program, *all* team members (as well the majority of both children and adults within the inclusive setting) implement the program. This may differ from program design and implementation in areas which require that a leadership role be played by other related service professions (in the areas of health, motor, or sensory challenges), where not all team members, or members of the school at large, implement key aspects of the program.

With regard to the design of communication/language programs, each student's needs will determine which team members participate in program design. The primary people involved include the speech/language pathologist, parents, special educator, and one or more teachers from general education, depending on the degree of inclusion experienced by the student. The student and a small group of the student's peers may also be involved in program design. Peers may provide ideas for vocabulary selection (e.g., typical greeting behaviors) and materials (e.g., a wallet or notebook graphic system, rather than a more traditional communication board). Peers may also provide a gauge for the acceptability of potential intervention strategies (e.g., distributed versus massed practice on receptive vocabulary). For some students with severe disabilities, contributions may also be necessary from additional related service personnel regarding gross and fine motor considerations, as well as sensory adaptation.

Direct and indirect service provision. Team service provision may consist of a combination of direct and indirect service delivery. With regard to communication, however, the major role of the speech/language pathologist is through indirect service delivery. Again, the essential nature of communication requires that the majority of potential communication partners have the skills necessary to implement each student's communication program. Again, rarely is it ever appropriate for a speech/language pathologist to be completely exempt from providing direct service, as such a model would limit the professional's ability to continue the development of "hands-on" skills that serve as the basis for timely and relevant input to the team process for each student.

Integrated therapy. Communication/language abilities are essential, embedded skills. As such, service delivery in this area must be integrated both *physically* (i.e., the site of service delivery) and *programmatically* (i.e., the necessity for support in this skill area is clearly related to the student's ability to benefit from special education). However, an exception to the recommendation that all service delivery be integrated may occur in regard to the delivery of strategies designed to enhance a student's oral-motor ability. In those circumstances in which the implementation of strategies may stigmatize a student socially, then limited delivery of more isolated therapy may become appropriate.

Evaluation

All aspects of teamwork require ongoing evaluation so that changes in structure and/or functions may be made as needed. A review of potentially valuable concepts related to evaluation follows.

Team Structure

As defined for the purpose of this paper, team structure refers to how teams are organized and managed, as well as what roles and responsibilities are implemented. Although there is a substantial body of literature available in which particular characteristics of teamwork are described (e.g., transdisciplinary), there is general agreement that an effective team is one in which team members are truly collaborative in their interactions. Collaboration is expressed through mutual respect and active participation in consensus decision-making, as well as the ability to address controversial issues directly and productively. Some suggestions regarding evaluation of collaborative team structures may be found in the work of Fox and Williams (1991). These authors have suggested two potential methods that are designed to measure the personal effectiveness of team members. The first of the processes is to be carried out by the team member who serves in the role of the *observer* for a particular team meeting. As the meeting unfolds, the observer collects data as to whether individual members engage in a set of collaborative team practices. The collaborative practices to be assessed are determined collectively by each team but may include such skills as encouraging others, asking for clarification, expressing feelings and ideas, and active listening. The observer provides feedback to all team members regarding their relative strengths and vulnerabilities with respect to each collaborative skill. For team members who may feel uncomfortable with this form of evaluation, a second option is to have team members conduct *self-assessment* with regard to the demonstration of collaborative skills. Again, the skills to be assessed may be determined collectively, but evaluation is a private rather than a public matter. In addition to the skills that have been determined collectively, each team member may select a limited set of additional collaborative skills that he or she may feel would benefit from additional effort (e.g., "I listened to and expressed support and acceptance of others' ideas").

Carney (1988) has developed a set of two self-assessment checklists that can be used to evaluate the dynamics of team participation. One checklist is for evaluation of personal dynamics and includes such skills as "What does your facial expression and body language communicate?" and "Do you feel that you generally trust other group members?" The second checklist is used to evaluate group dynamics related to team participation and includes such items as "Who assumed responsibility for getting the job done?" and "Did the group have all the information it needed to proceed?" These checklists are described more fully in Orelove and Sobsey (1991b). The use of these or similar self-assessment measures may be helpful to team members as they struggle to meet the challenges of implementing an effective team model.

In addition to evaluating the interpersonal and collaborative aspects of team participation, it may also be appropriate for team members to engage occasionally in an exercise during which the goals of team membership can be reviewed, as well as whether or not the team structure supports or hinders the acquisition of those goals. As an outcome of this process, changes in team structure may result, such as increasing or decreasing the number of team members, changing the roles and responsibilities of various team members, and adopting various collaborative practices (e.g., agreement to adhere to a specific model of problem-solving or conflict resolution).

Team Functions

Goal-setting. There are multiple dimensions to the evaluation of team goal-setting. Team membership is one way that the evaluation of team goal-setting may be enhanced on a longitudinal basis. The meaningful participation of parents, students, peers, and community members may encourage relevant goal-setting, simply through the participation of a broad number of constituencies. A second way to evaluate goal-setting is to have team members select a set of best practices that will serve as the framework for team goals over the course of a particular school year. As described earlier, Fox and Williams (1991) have identified a set of 54 best practice guidelines that can be used as one reference point for evaluating team functions.

Although agreement on a set of best practice guidelines is an important exercise for team members to undertake, it may also be necessary for team members to evaluate goals more than annually. On occasion, teams meet to make modifications in a student's program, address a behavioral or medical "crisis," and make modifications in goal-setting based upon progress (or lack of progress) on a set of goals. As described earlier, it may be helpful for team members to supplement their problem-solving model to include a step during which the potential solutions under consideration by the team are judged against a more limited set of standards or values that are in place for that student. These standards may reflect such elements as determining which of two values will take precedence in a particular decision, or whether the purpose of inclusion for a particular student is served better through selection of one goal over another. For example, a student with a severe physical disability may require an augmentive or alternative communication device. Is it more important for that student to use the device at mealtime to express preferences (which may lengthen the time the student spends in the lunchroom), or is it more important for the student to have a more abbreviated mealtime program and move quickly to the playground for interaction with peers? The adoption of a limited set of values against which team decisions are evaluated may be determined individually for each student.

Service provision. The evaluation of how well teams engage in service provision is another area in which broad team membership may facilitate adherence to a meaningful set of standards. As special educators and related services personnel modify their roles and responsibilities in accordance with more inclusive educational practices, the input of multiple constituencies may help team members engage in the use of more normalized methods and materials. The work of Fox and Williams (1991) may again provide guidance in this area. They have identified suggestions for team members to use in deciding which of multiple teaching methods and materials may be the most appropriate for individual students who participate in more inclusive educational activities. They address a range of potential student responses as well. Examples from their work include: (a) methods such as coaching, computer aided, fading, and time delay; (b) materials such as photographs or concrete "real" items; and (c) student responses such as "looking at," "picking up," or "underlining."

Team decisions regarding service provision, like those related to goal-setting, may warrant ongoing consideration of methods, materials, and response selection against a set of best practice guidelines or a more limited set of values-based criteria (e.g., interdependence). This process may help ensure that the team continues to move forward to ever more inclusive practices as each school year progresses.

Conclusion and Recommendations

The need for partnerships and teamwork among professionals from various disciplines is well recognized as a "quality indicator" of best practice service delivery for students with severe disabilities (Fox & Williams, 1991; Meyer & Eichinger, 1987). Additionally, input from related services personnel is a key element of Public Law (P.L.) 101-476, if related services are "...required in order to assist a child with a disability to benefit from special education" (Individuals with Disabilities Education Act, 1990).

Despite professional recognition of the need for teams and the legislation that explicitly supports team input, there are continuing problems with team structure and functions. Ferguson and Ryan-Vincek (1992), in a review of problems with "teaming" in special education, have interpreted the literature to date as suggesting that the problems lie in: "(a) what team members know, (b) how team members interact, and (c) how teaming activity is organized" (pp. 67-68). These authors then provide a second interpretation of the problems with teaming which may be summarized as the need for teams to examine how problems are both named (i.e., the things to attend to) and framed (i.e., determining the context in which those problems will be attended to). Ferguson and Ryan-Vincek (1992) also interpret problems as stemming from (a) not so much from *what* team members know as *how* they know (i.e., differences in the ways professionals from different disciplines exercise their judgement), and (b) not so much *how* team members interact as *who* they are (i.e., that there are differing perspectives within as well as across disciplines).

As the discussions on collaborative team processes in the field continue, it may be helpful to articulate some recommendations that may guide future efforts to enhance the team process. Those recommendations include the following:

Recommendation #1: Examine current practices in preservice personnel preparation for both educators and related services personnel with regard to the time and effort devoted to preparing novice teachers and therapists to become effective team members. A potential solution to resolving the differences in perspective that arise from preparation that is *either* educational or therapeutic is that a certain degree of joint preparation should be undertaken at the preservice level. This solution, however, may interfere with the necessity for professionals to be indoctrinated into their respective disciplines, both in terms of the objective knowledge of the discipline *and* the subjective norms by which professional judgements are acquired (Skrtic, 1988). These differences in perspective may either add to the creative solutions that teams may generate during problem-solving or may complicate the process of reaching consensus. The latter outcome may arise if there is insufficient agreement on a shared vision or on a set of mutually determined values.

A recommendation for preservice preparation is to encourage programs that prepare teachers and related services personnel to practice the structure of teaming (i.e., work as teams rather than individually in both didactic coursework and field-based/clinical experiences), in order to learn the processes of collaboration within the disciplinary framework first. Specific instruction on the various roles of team members, the processes of problem-solving, conflict resolution, and assessment of interpersonal skills may occur during this time. Additional experiences during which students from a range of preparation programs (both educational and therapeutic) practice teaming in final field-based/clinical placements may also occur near the conclusion of their respective preparation programs, after socialization within individual disciplines has occurred.

Recommendation #2: Continue the development of team members' ability to function effectively through inservice support. A partial list of resource materials that may be of assistance in enhancing existing team structures and functions is found at the end of this manuscript.

Recommendation #3: Analyze the differences between educational and medical/therapeutic perspectives, as they underlie the provision of services to persons with severe disabilities. It is necessary to articulate clearly that, in educational settings, the "deficit" model common to the medical perspective is replaced with a model that is more holistic and that focuses on a person's strengths as well as vulnerabilities. A belief that *all* people can learn and a rejection of the assumption that services are provided on the basis of the relative "return-on-investment" (Giangreco & Eichinger, 1990) are fundamental to developing the shared framework that underlies collaborative teams.

Recommendation #4: Provide administrative support with regard to the time necessary for teams to meet on a regular basis, as well as support for individual team members to provide the flexible combination of direct and indirect service provision that is necessary for effective team functioning. Administrative support that includes such a commitment to scheduling and flexibility may need to occur at the building or district level.

Challenging as they may be, teams are necessary for the simple reason that neither educators, parents, nor related services personnel singularly possess all the information and skills necessary to meet the varied needs of students with severe disabilities. For this reason, the collective contributions of parents and professionals from a range of disciplines are an important aspect of ensuring that *all* students are able to access the full range of educational opportunity guaranteed under the Individuals with Disabilities Education Act.

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Maximizing Consumer Participation in the Team Process

by
Kim Powers
The Silent Network and America's Disability Channel

This paper examines the problems and barriers that individuals with severe disabilities often encounter in four areas of their lives: dealing with medical professionals, working with the public education system, receiving rehabilitation services, and socializing with others.[1] *Possible resolutions are suggested in each area. From her perspective as an individual who is deaf / blind, the author looks candidly at the roles played by the family, the self, and the institutions / professionals / agencies in the lives of individuals with severe disabilities and suggests ways in which each party might work to maximize the participation of individuals with disabilities in the team process.*

INTRODUCTION

The United States is working to ensure a fully accessible society for all of the nation's citizens. However, many barriers have yet to be overcome. Communication with and personal misconceptions about persons with disabilities are probably the broadest avenues where change is still needed.

As I prepare this paper, I feel it needs to be stated that my experience is just that -- my experience. The realm of scenarios related to disabilities is so vast that it would be impossible for my scenario to be the generic situation that would represent the entire realm. Therefore, it is important for me to establish a little of my history for the sake of this paper.

I was born prematurely in 1962. My family discovered I was profoundly deaf when I was around two years old. At this age I was enrolled into an oral program for deaf children. My education from age 2 to 10 consisted of oral instruction. At the age of 11, I entered the Texas School for the Deaf. Also at the age of 11, I was diagnosed with retinitis pigmentosa and was informed that I had less than 20 degrees of central vision left. I continued to be an active student at the Texas School for the Deaf, involving myself in activities such as cheerleading, sports, clubs, and elected school offices. I graduated in 1981 and attended several colleges and technical training courses offered through the Texas Commission for the Blind. I lost the last of my vision in 1986-87. I then learned braille and began to receive training in adaptive equipment for people with visual impairments. I now work as an actress in residence at The Silent Network (TSN) and America's Disability Channel (ADC), where I host a half-hour television show called "Kim's World" and do various related work.

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SOME ORGANIZING TERMINOLOGY

Throughout this paper, you will see several words used repeatedly, such as *problems*, *barriers*, and *resolutions*. The purpose of my writing in this fashion is because of the personal relationship I have with the subject. I have been asked for my opinion; however, it is important to remember that I have a biased opinion. The reason I say that is because I, personally, am the one with the disability. My attitude and my perception are based on my experiences through life, not on my book-learned knowledge of the subject. It is often hard for me to remove myself from the emotional impact that such disabling conditions cause and have an objective perception.

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My reason for organizing this paper around the concepts of problems, barriers, and resolutions is to relay my concept of how my situation would relate to a possible model situation. I include three subcategories titled *family*, *self*, and *institution/professional/agency*. These always seem to be the categories that I, as a person with a disability, have had to deal with. The problems I discuss are the things I faced every day; the barriers are the things or people in the way of resolving my problems; and the resolutions are the possible ways I now feel that problems could have been solved.

Situation Synopsis 1

When dealing with medical professionals, many individuals with disabilities note that the medical professional tends not to consider or listen closely to them. When I was 25 years old, I was living with my mother and went to see my State counselor about problems with my readable vision. My counselor sent me to the doctor. In the doctor's examination and evaluation of my central vision, it was discovered that I had a cataract. The doctor decided that he would not remove the cataract. He based his decision on the fact that, because my vision was already so limited (only 3 degrees of central vision), it would not be worth the procedure. When I resisted this decision, the doctor explained that I was going through a stage of denial in dealing with my blindness.

My family and I discussed the issue for several months after the visit. When I explained that I felt I would benefit from having the cataract removed, my opinion was all but dismissed. The doctor was provided by my State Commission for the Blind, so I decided to see a doctor independently and had the cataract surgery myself, paying my own bills. After the surgery, I had usable reading vision for three more years -- years that were mentally productive for me.

Problems

Family: Family did not give immediate support of my opinion.

Self: I failed to aggressively communicate personal feelings and needs.

Institution-Medical Professionals: Medical professionals lacked sensitivity to my needs as an individual with disabilities.

Barriers

Family: Often, because of the situation with the child, family members find it difficult, if not impossible, to communicate even basic ideas and concerns to the child or about the child. Moreover, parents naturally become accustomed to answering for the child at an early age. Thus, a pattern is established which is very difficult to change. Since the parent speaks for the child, the parent drifts into the pattern of thinking for the child.

Self: Because of being severely disabled and because of the frustration of communicating, a child experiences difficulty in expressing his or her feelings to parents. This same frustration in communicating is magnified when the child attempts to relate to medical professionals, because he or she often feels intimidated.

Institution-Medical Professionals: Medical professionals often lack sensitivity to the needs of children with disabilities. Moreover, they have little time or motivation to attend the training sessions that would prepare them for disability specialization. Since children with disabilities often associate doctors with unpleasant experiences, the child's view of the doctor is often a negative one.

Resolutions

Family: Even though family members are caregivers, the child is the one who possesses the disabling condition and is often more acutely aware of general physical conditions and needs. Family members should show more sensitive support for the child's feelings and attitudes toward medical care and medical professionals. Parents should listen carefully and attempt to evaluate the child's opinion in light of their understanding of the child's disability and their knowledge of the medical needs and care the child is receiving.

Self: If physically able, the child should initiate communication. When at all possible, the child should be allowed to interact with the medical professionals on a personal basis. The child should ask questions of the parents and the doctor.

Institution-Medical Professionals: Doctors could receive specialized training in working with persons with disabilities. Workshops and conferences where actual consumers with disabilities would be conference leaders could help doctors become more sensitive and perhaps more comfortable in relating to their patients with disabilities. Medical professionals should be more aware of the personhood of the consumer and communicate directly with that person, where possible. Medical professionals should view the family as more of a support system and less of the easiest, quickest way to get their questions answered. Since the child's perception of the doctor is often negative, it would be helpful if the doctor could provide experiences that would be positive in relating to the child.

Team Resolution Process

Parents, children, and medical professionals can work together to devise a healthy perspective for the child. In order to utilize and maximize input from the child's communications, evaluations should be made prior to treatment. Parents can work to provide an environment where the child with a disability can communicate freely and function productively.

Situation Synopsis 2

At the age of 11, I was diagnosed as having retinitis pigmentosa. At that time, I was informed that I was legally blind (which means I had less than 20 degrees of usable vision). Because I had been born deaf, sign language was my main means of communication. My limited vision made it virtually impossible to follow lectures and class discussions in the public school system without the teachers' and students' awareness of my needs. Even though I had a degenerative disease that would lead to total blindness, I graduated from high school with few people knowing of my problem or aware of the accommodations that I needed.

Problems

Family: There was a lack of communication between my family and classroom teachers.

Self: As a child, I was not assertive in communicating needs to family, teachers, and signers.

Institution-Public Education System: There was a lack of awareness of my needs in facilitating communication.

Barriers

Family: Parents are not prepared for the problems that come with having a child who is born with severe and multiple disabilities. Their lack of knowledge of the disability leads to lack of confidence, and this, in turn, leads to a dependence on professionals. Often parents view educational institutions and staff members as omniscient providers of care and education for children with disabilities. Parents often have no tools for evaluating whether or not a child's needs are being met by the school system.

Self: Due to denial and the general feelings of being labeled as a child with a disability, a child can feel isolated from peers and separated from the general population. These feelings affect the child's self-image and can prohibit the child from expressing his or her needs.

Institution-Public Education System: School systems are often ill equipped to respond to the diverse needs of students with severe disabilities. This is possibly due to a lack of qualified staff and funding.

Resolution

Family: An adult member of the family should communicate with the classroom teacher and become actively involved to make sure that the disabled child's needs are being met in the classroom.

Self: The child with the disability could approach the teacher to remind the teacher of any unique needs or accommodations necessitated by the disability. In my case, I could have informed my teacher that it is virtually impossible for me to read the chalkboard in dim light or to read the signs if the area of signing extended past 20 degrees of my usable vision.

Institution-Public Education System: The institution could provide equal education, which is my right as a U.S. citizen and the right of any child with disabilities. This can be done by hiring professionals who specialize in disability and who are aware of the needs and appropriate resources that ensure the child's education. Having the signer, whether it be teacher, student, or family member, sign in a smaller amount of space would have helped solve my problem.

Team Process Resolution

Teachers, parents, and the child should have an initial meeting to discuss specific problems, needs, and barriers related to the classroom experience of the disabled child. Since many problems are not identified until there is "situation occurrence," it is important to have periodic meetings to evaluate the circumstances and the child's progress.

Situation Synopsis 3

I faced a number of problems as a "client" in a rehabilitation setting. My counselor had limited knowledge of my particular disability, which forced him to consult with a specialist in another city to confirm his decisions concerning my case. When interpreters were provided, they were hired as signed language interpreters but were often unqualified as tactile interpreters. My family was not encouraged to participate in any goal or career planning for me. Since there was little communication between my counselor and myself, and between my counselor and my family, the rehabilitation aspect was very minimal.

Problems

Family: Feeling that it was the responsibility of the agencies or rehabilitation services to provide adequate accommodations and assistance for the child with the disability, my family often felt very little direct responsibility for my rehabilitation and training.

Self: As a disabled individual who was capable of participating in setting goals and making choices, I was not encouraged to do so by counselors and family members.

Institution-Rehabilitation Services: My counselor did not specialize in deaf/blindness, yet I was faced with accepting him as a professional who seldom used my input. One of my counselor's responsibilities was to provide me with an interpreter for my meetings with him. I repeatedly told the counselor that his choice of interpreters was not accommodating for me, since they seldom had tactile experience. This often limited communication in my meeting with the counselor.

Barriers

Family: Too often parents step back and take an insignificant role in communicating with the child's counselor and in participating in the strategies for rehabilitation services for the disabled child.

Self: Having multiple disabilities comes with its own set of limitations. Communication barriers, coupled with the lack of time spent with the counselor, are often discouraging to the child or youth with disabilities.

Institution-Rehabilitation Services: The tremendous caseload of most Texas-based rehabilitation counselors forces counselors to deal with consumers with a diversity of disabilities. Thus, the counselor usually has minimal knowledge of a number of disabilities and only rarely specializes in one particular disability. In the case of individuals who are deaf-blind, the choice of interpreters is often decided by the counseling body, because the interpreter expense is generally the responsibility of the institution. When the interpreter chosen does not have the skills necessary for interpreting for an individual who is deaf-blind, this leads to minimal communication between the individual to be served and the counselor.

Resolution

Family: The family should take a more active role in the decision-making activities related to rehabilitation. This role encompasses far more than completing and updating forms and applications. All rehabilitation services utilize a general plan, and parental input is an essential part of this plan.

Self: Where possible, the child or youth should be actively involved in choices for future goals and plans -- thereby maximizing the child's abilities.

Institution-Rehabilitation Services: Some counselors still use the "I'm the doctor, you're the patient, I will prescribe" method. Counselors often would be more helpful as service providers if they were not as dictatorial. The consumer is often not perceived as such, but is more often labeled as the patient or client. The counselor's approach with the consumer needs to be re-evaluated and changed.

Team Process Resolution

The ideal would be for rehabilitation services to be a consortium of independent counselors specializing in certain disabilities. The family could then choose as they would for any other type of service. Able-bodied people have the right to make choices concerning their lives; so should individuals with disabilities. Rehabilitation services should work to maximize the number of life decisions that a person with a disability can make concerning his or her own life. The counselor, the family, and the consumer are all integral parts of this lifetime process of rehabilitation. Working together as a team in this effort improves the results of the rehabilitation process and increases the confidence level and stability of the child.

Situation Synopsis 4

In my personal life, the social ramifications of dealing with a severe disability have been difficult both physically and emotionally. In social situations when I am with people who are new to me, I must deal with people who lack skill in guiding me. Thus, I am faced with bumping into walls, falling down stairs, and hitting miscellaneous objects. I am also limited in interactions with others because of the communicative limitations. I only communicate with the general public on an extreme-basic-needs level. In the majority of times and situations, my disability makes it impossible for me to initiate communication. People fail to interact with me on a personal basis because of my communicative disorder related to my disability.

Problems

Because of my disability, I have limited personal interactions with people and limited access to interactive communication of any kind. I also have limited exposure to possible social interactions due to my physical mobility restrictions.

Barriers

Family: Having a child with severe disabilities adds responsibility to all family members. This added responsibility is often burdensome. Lack of time and multitudinous other responsibilities can short-change the time that family members can spend with the child who has a disability. This precious time is what is needed to integrate the child into the family lifestyle.

Self: People's general misconceptions about people who have disabilities are often the worst aspect of a disabling condition. People often have a reluctance that is evident and is difficult to overcome.

General Public: The greatest barrier of all is the public's misconception of persons with disabilities. There is a lack of encouragement for interaction between persons who are able and disabled. There is also a lack of public accommodation to the needs of the severely disabled.

Resolutions

Family: People in the family experience a complete and separate world every day. It is very appreciated when family members interact with children who are severely disabled. Often family members can help by making time to sit down and communicate -- no matter what the mode.

Self: Children need to actively participate when possible. The more interaction, the more information the child is receiving. Children need to be friendly and encourage people to interact comfortably.

General Public: The process of changing attitudes will take longer than changing laws. Until the education process that will change attitudes has taken place, it would help to have meetings of local groups of people with disabilities. This often is the only opportunity for interaction that a person with a severe disability receives. It would be most beneficial and enjoyable to pair up kids who have similar disabilities. Kids with severe disabilities can have best friends.

Team Process Resolution

We, as a consortium of people, must act together to remove the stigmas attached to children with severe disabilities. We can actively try to accept and encourage communication from ourselves and others. Social Services can help gather groups of both similar and diverse people. We can encourage children with severe disabilities to be healthy, happy children first and disabled children second.

A FEW FINAL NOTES

Please notice my careful selection of how to prioritize the three entities involved in the team process. Because we are speaking of children and youth, the family is the first solution. The reason for this is that the family is generally the first to experience the impact of the disability. The second solution is "self." Self is probably the most important component later in life, but we are focusing primarily on children's issues. The last of the three components is, of course, the institution. Because of the diversity of disabilities, and the broad spectrum of degrees of ability within each category, it becomes very difficult for any institution to meet the needs of all people with disabilities.

In my case, I am deaf/blind. Too often the labeling of a disabling condition can be misleading. For example, in the area of deafness, there are three labels that are often used to describe the spectrum -- hard of hearing, deaf, and culturally deaf. Within these three areas, there are multiple modes of communication that are used by the consumer. If this scenario is augmented to having a consumer who is deaf/blind, deaf/mentally retarded, or deaf/cerebral palsy, the amount of knowledge one would need in order to provide adequate communicative devices or services would be almost insurmountable.

Therefore, it is increasingly important for the parents and children to take on more responsibilities. Because they live with the disabling condition every day, they generally are the experts in determining the needs, specific appropriations, and accommodations needed by the child with the disability.

In conclusion, it is very important for everyone who reads this paper to know that I am a very happy person. I enjoy life, and I enjoy the world. In this paper, the only things focused on were the problems. This is because these are the things that can be improved. People without disabilities have problems as well, and it would be nice if some of the major ones could be taken care of. It needs to be understood that the reason for my writing this paper and for listing such problems is in hopes that the good life I and others lead could get a little better.

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Using Functional Communication Training as an Intervention for the Challenging Behavior of Students with Severe Disabilities

by
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Behaviors such as aggression, self-injury, and tantrums have been looked upon as nonverbal forms of communication. Directly following from this view of challenging behavior, intervention efforts have been designed around teaching students more appropriate ways to communicate their wants and needs. This paper reviews the growing evidence of the success of this approach to reducing challenging behavior.[1] *In addition, specific recommendations are outlined for implementation and future directions. Of particular note is the crucial role of home-school collaboration and the potential of early intervention efforts to prevent severe challenging behavior.*

Challenging behavior is often cited as a serious obstacle to the education of students with severe disabilities. Behaviors such as aggression, self-injury, and tantrums can disrupt ongoing efforts to include children and youth with severe disabilities in their home school districts and communities. Efforts to teach such important skills as communication can be significantly hampered by the presence of seriously disruptive behavior (e.g., Carr, Newsom, & Binkoff, 1976).

These challenging behaviors are exhibited by a large proportion of students having severe disabilities. Prevalence estimates for challenging behaviors range from 10% to 40% for persons with severe disabilities (Schroeder, Schroeder, Smith, & Dalldorf, 1978; Shodell & Reiter, 1968). Clearly, this is a large problem for those trying to help these individuals become more independent. Because of the prevalence of these behaviors and their detrimental effects on habilitation efforts, considerable research has been conducted to improve our understanding of challenging behavior and to facilitate efforts to reduce these behaviors.

This paper will focus on recent work that has viewed challenging behavior as a form of nonverbal communication. Following a brief review of the evidence for a communicative hypothesis for challenging behavior, research on communication-based interventions will be presented. The state of practice and implementation will then be outlined, along with recommendations for implementation and future directions.

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The Correlation Between Communication Difficulties and the Presence of Challenging Behavior

The idea that challenging behavior may serve as a form of communication has a long history (Durand, 1990). Crying by children, in particular, has frequently been viewed as an attempt to communicate. Anyone who has observed a crying child and a frantic parent trying to discover what the child wants is struck by the power of these interactions. The earliest recorded observations support this notion. Writers including Plato and the French philosopher Rousseau observed that crying may have communicative properties (Plato, circa 348 BC/1960, p. 174; Rousseau, 1762/1979, p. 77). Family systems theorists have long relied on the idea that nonverbal behavior has communicative properties (e.g., Haley, 1963; Minuchin, 1974). Furthermore, over the last several decades, developmental psychologists have systematically studied the communicative nature of nonverbal behavior in young children (Bates, Camaioni, & Volterra, 1975; Bruner, 1973; Wolff, 1969).

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Research on the variables maintaining challenging behavior suggests that challenging behavior exhibited by persons with severe disabilities can, like communication, serve multiple social functions (Carr, 1977; Donnellan, Mirenda, Mesaros, & Fassbender, 1984; Durand & Carr, 1987; Evans & Meyer, 1985; Gaylord-Ross, 1980). The idea that the challenging behavior of persons with severe disabilities can serve a communicative function has intuitive appeal. These persons characteristically have difficulty communicating their wants and needs. Parents and other caregivers often describe persons with severe and multiple disabilities as being "frustrated," because they appear to want to communicate but cannot. Correlational research in this area also appears to support this idea. For example, Talkington, Hall, and Altman (1971) observed that aggression was more prevalent among persons with severe communication difficulties. Similarly, persons most likely to be engaging in self-injurious behavior have been found to be lacking in verbal facility (Shodell & Reiter, 1968).

This conceptualization is of contemporary importance, because workers in this field are proposing that behaviors such as aggression and self-injury may be similar to nonverbal forms of communication (e.g., Carr & Durand, 1985; Day, Johnson, & Schussler, 1986; Donnellan et al., 1984; Durand, 1982, 1986, 1990; Meyer & Evans, 1986; Neel et al., 1983; Schuler & Goetz, 1981). It has proven useful to compare challenging behavior to other forms of nonverbal behavior. Looking at challenging behavior in this way has been helpful in intervention efforts. This work has found that if we can identify what these people are "saying" with their behavior problems, then we can teach them other, more constructive ways to communicate the same things as an alternative to their challenging behaviors.

Communication-Based Intervention

As was previously mentioned, viewing challenging behavior as a form of nonverbal communication has implications for intervention (Durand & Berotti, 1991). One ramification of this conceptualization is its effect on the way we view previous treatment attempts. Let us suppose, for example, that a young girl is hitting herself to escape tasks because they are boring. Punishing her self-injury by spraying water in her face or reprimanding her fails to provide her with more interesting activities and does not teach her a more appropriate way to express displeasure. We could predict that even if the water spray or reprimands were sufficiently unpleasant to get her to stop her self-injury, the young woman would attempt other ways to escape these tasks. Relying on negative consequences to "gain control until teaching can take place" bypasses the fundamental issue -- why is she hitting herself, and how can we address these concerns?

The communication hypothesis briefly outlined in this paper should provide guidelines for teaching alternatives and for improving the environments in which our students live. Specifically, if we could teach our students another, more acceptable way to communicate for the things they are getting with their challenging behavior, then they should display fewer behavior problems. Also, by listening to what they are saying with their challenging behavior, we can re-structure our interactions with these students in more appropriate ways.

Review of Functional Communication Training Literature

One intervention strategy that specifically uses communication to reduce challenging behavior has been called *functional communication training* (Durand, 1990). This strategy includes assessing the variables maintaining the behavior to be reduced and providing the same consequences for a different behavior. It is assumed that if individuals can gain access to desired consequences more effectively with the new response, they will use this new response and will reduce their use of the undesirable response. Applying this logic to challenging behavior, one is able to teach individuals more acceptable behaviors that serve the same function as their problem behavior. So, for example, we could teach people to ask for attention by saying, "Am I doing good work?" This would allow them to gain teacher attention in this appropriate way rather than in an inappropriate way such as through slapping their face. What follows is a review of the work in this area to reduce challenging behavior.

Severe Challenging Behavior

A number of studies have been conducted which demonstrate the value of this procedure in reducing severe behavior problems (e.g., Carr & Durand, 1985; Durand & Carr, 1991; Durand & Carr, in press; Durand & Kishi, 1987; Horner & Budd, 1985; Smith, 1985; Smith & Coleman, 1986). In one example, Durand and Kishi (1987) assessed the function of the severe behavior problems of five adults with multiple disabilities (dual sensory impairments and severe/profound retardation) by using a rating scale (the Motivation Assessment Scale, described in Durand & Crimmins, 1988). Through this scale, the researchers found that the challenging behaviors of these adults were maintained by escape from unpleasant situations, social attention from other adults, and gaining access to favorite tangibles. These individuals were then taught to nonverbally communicate requests that were equivalent to the assessed functions of their behavior problems. In other words, they were taught requests for assistance, requests for attention, and requests for tangibles. This intervention resulted in significant reduction in their severe self-injury and aggression.

In a similar study, Smith (1985) intervened with one 18-year-old man with autism who presumably engaged in aggression and self-injurious behavior to obtain tangibles. In particular, an analysis revealed that aggression and self-injury often occurred in the presence of food and was accompanied by requests for food. Teaching him to request favorite foods resulted in dramatic reduction in the number of his aggressive episodes. It is important to note that he was given food immediately upon request. Interestingly, as this man's weight began to rise and subsequently stabilized at a normal weight for his size, he requested food less. Therefore, even though he could have food whenever he asked for it, he did not overeat.

Bird, Dores, Moniz, and Robinson (1989) recently documented the successful use of functional communication training with two adult men who had extensive histories of severe aggression and self-injury. The Motivation Assessment Scale was used in this study to assess the function of these challenging behaviors. Following functional communication training, improvements were observed in appropriate behavior, work productivity, and the use of spontaneous communication. These results were maintained over six months following intervention. Hunt, Alwell, and Goetz (1988) and Hunt, Alwell, Goetz, and Sailor (1990) observed similar improvements in their high school-aged students following conversation skill training.

Wacker, Steege, and colleagues (Steege et al., 1990; Wacker et al., 1990) have conducted a series of studies that further support the use of functional communication training as an intervention for severe challenging behavior. In one study (Wacker et al., 1990), they identified two children who exhibited hand biting and aggression in the form of slapping and biting peers and staff. They taught one student a communicative response that matched the function of his challenging behavior and added a response-contingent, time-out contingency. He could sign for a break from work, but would have to sit alone for a brief time at his table if he was disruptive. A second student was also taught a form of communication that matched the function of her challenging behavior. This was combined with response-contingent, graduated guidance. She was taught the signs for a "break" from work, "please," and "eat." Hand-over-hand guidance was used if she did not comply with requests. The results of this approach were that the students exhibited little to no challenging behaviors after intervention.

In the second study (Steege et al., 1990), two children with severe disabilities were taught to press a microswitch that activated a prerecorded message of "stop." Because their self-injurious behavior (hand and arm biting) was assessed to be maintained by escape from tasks, they were taught a means of requesting a brief end to their tasks. Again, this intervention resulted in significant reductions in their self-injurious behaviors.

Taken together, these studies have begun to demonstrate the success of using functional communication training as an intervention for even the more severe forms of challenging behavior. Although it is recognized that no one single intervention approach can be successful for all individuals, the cumulative evidence supports a more optimistic view of using these positive support strategies for more serious forms of challenging behavior.

Non-Injurious Behavior

Behaviors that are highly consistent and repetitive and that have no apparent adaptive function have been variously labeled stereotyped or self-stimulatory (Baumeister & Forehand, 1973; Berkson, 1967). These behaviors take a variety of forms, including repetitive body rocking, hand flapping, mouthing, and body posturing. Explanations for the maintenance of stereotyped behavior have often centered on their ability to provide the person with reinforcing sensory input (e.g., Lovaas, Newsom, & Hickman, 1987). However, *some* individuals appear to engage in stereotyped motor behavior for social reasons. Over time, some people who engage in stereotyped behavior such as rocking or hand flapping appear to learn to use these behaviors to do things such as escape from work demands. For these individuals, then, teaching communicative alternatives would include behaviors that evoke specific social reactions by others (as opposed to producing specific sensory feedback).

Following the logic that some stereotyped behaviors may occur for social reasons, Durand and Carr (1987) assessed the rocking and hand flapping of four individuals. They found that rocking and hand flapping were maintained by escape from unpleasant situations. Using this information, Durand and Carr taught participants to say the phrase "Help me" during difficult tasks. If the work was too difficult, they could ask for help, and the teachers would provide them with assistance. This treatment resulted in significant reductions in stereotyped motor behavior for all four individuals. This finding has recently been replicated in a study by Wacker et al. (1990).

In summary, relatively few studies have so far examined the efficacy of functional communication training as a treatment for stereotyped motor responses, but given its non-aversive and constructive nature, the approach warrants further investigation.

Factors Affecting Initial Effectiveness

An important consideration for the initial success of functional communication training seems to be matching the communicative behavior to the function of the challenging behavior. In other words, the new trained response should evoke the same consequences as the targeted challenging behavior. *It is not enough just to communicate* -- others should respond to you if you need or want something. The form of communication being taught should match the function of the challenging behavior, and it should be more effective than the challenging behavior in getting the student what he or she wants. These two factors (response match and response efficiency) will be discussed as they relate to the initial reduction of challenging behavior.

Response Match

Our first study of functional communication training directly addressed the issue of response match (Carr & Durand, 1985). Following a functional analysis of the challenging behaviors of four students, we taught them responses that matched the assessed function of their behaviors, as well as responses that did not match the function of their challenging behavior. If, for example, a student's challenging behavior occurred to escape difficult tasks, then a corresponding communicative behavior would be to ask for help. Asking for help would result in assistance, which would make the difficult task easier. A communicative behavior that would not match this behavior would be to teach a request for attention. If the student asked for attention but did not get help on the task, then it would not match the intent of the challenging behavior.

In each case, the students' challenging behavior was reduced only when they used the communicative response that matched the function of their behavior. The students' behavior problems were not reduced when they were taught responses that did not match the function of their challenging behavior.

To further assess this issue, a second study was conducted. This study focused on the unusual speech of a young boy with autism (Durand & Crimmins, 1987). We conducted two separate analyses of the function of this boy's unusual speech and found that it tended to increase when he was faced with difficult tasks. Our interpretation was that his unusual speech served to allow him to escape from situations that he found unpleasant -- in this case, difficult tasks.

The intervention phase of this study involved teaching him to say "Help me" when presented with difficult tasks. In one condition, the phrase "Help me" was followed by assistance from an experimenter. Under this condition, unusual speech decreased as expected. It was assumed that the assistance provided to the student in effect made the task easier. In a second condition, the phrase was instead followed by praise from the experimenter but not with assistance. The experimenter would say "That's good talking!" when the boy said "Help me," but did not help him with his work. Under these conditions, unusual speech *increased* when compared to the previous condition and baseline. Therefore, although the student was taught the same communicative phrase in each condition, his unusual speech decreased only when the phrase served the same function. In both studies, reductions in challenging behavior only occurred when alternative behaviors were taught that matched the function of the problem behaviors. Alternative explanations such as stimulus control or physical incompatibility could be ruled out.

Response Efficiency

As was mentioned above, the form of communication being taught must not only match the function of the student's challenging behavior, it must also be more effective in getting the student the reinforcers he or she obtained with the problem behavior. It should be easier for the student to get what he or she wants by asking for it in an appropriate way rather than by hitting. In an elegant series of studies, Horner and his colleagues have begun to examine this aspect of functional communication training (Horner & Day, 1991; Horner, Sprague, O'Brien, & Heathfield, 1990). This group has found that three components of efficiency seem to be involved in the success of functional communication training.

The first component of response efficiency, *physical effort*, refers to the actual energy being expended for both the challenging behavior and the communication. If it is physically easier to get what you want with the new communicative response, then that behavior will replace the challenging behavior. The second component, *schedule of reinforcement*, refers to how effective each response is in obtaining the reinforcers. If the communicative response is successful each time it occurs, but the challenging behavior is reinforced only occasionally, then the communication will replace it. Finally, the *delay* in receiving the reinforcers will also affect whether or not functional communication training will be effective. If individuals delay too long in responding to the communication, it will not successfully compete with the challenging behavior.

The research on response match and response efficiency points out that it is not enough just to teach communication. In order for functional communication training to reduce challenging behavior, the new behaviors being taught must match the function of the challenging behavior *and* must be more effective in obtaining those things previously obtained through the problem behaviors.

Factors Affecting Generalization and Maintenance

Research has begun to examine if and how functional communication training generalizes to new people and settings, and if and how it maintains over time (Durand & Carr, 1991, 1992). Several factors appear to affect generalization and maintenance. These factors include the *acceptability* of the communicative response, the *recognizability* of the communicative response, and the *context* in which the student is communicating.

Acceptability

One aspect of response success is its acceptability to significant others. If the new communicative response is seen as unacceptable in community settings, then the desired response will not be achieved. A number of anecdotes have attested to this aspect of generalization and maintenance. For example, one group relayed their dismay that, although functional communication training had been successful with one man they were working with, it had not been successful out in the community. When questioned, it was revealed that they taught a 31-year-old man to ask for a hug each time he wanted attention. Although this was acceptable in their program, it was pointed out that an adult man asking strangers for a hug would probably not be viewed positively in most communities. It made sense that his disruptive behavior did not decrease in the community (i.e., the communication he had been taught, the hug, would not generalize to settings and individuals outside of the program).

To date, there has been little empirical evidence for this aspect of functional communication training, although one study addressed this factor indirectly. Durand and Kishi (1987) used functional communication training to reduce the severe challenging behavior exhibited by five individuals with severe/profound mental retardation and dual sensory impairments (deaf/blind). One participants would scream and remove her clothes, apparently to obtain staff attention. Our first attempt at intervention involved teaching her to raise her hand as a means of signaling the staff to attend to her. Despite the fact that she learned to raise her hand, over time some staff did not respond to her requests consistently. When they were very busy doing chores around the home, they found that they could not respond to her each time she raised her hand.

We decided to change the meaning of the raised hand. Thus, instead of meaning "Come spend some time with me," we now taught the staff that her raised hand was to mean "Can I help you?" Each time she raised her hand it meant they were to take her along on the chores with which they were so busy. The staff accepted this form of attention as appropriate (she received their attention as well as learned new skills) and would respond to these new requests. These experiences suggested that, unless the response we teach is acceptable to those around the individual in question, it will not be elicit a consistent response by all people (no generalization) and may not be effective over time (no maintenance).

Recognizability

Several studies have addressed the issue of the recognizability of the communicative response. In a study of maintenance, we found that, after initial success with functional communication training, one young boy resumed engaging in his serious self-injury (Durand & Carr, 1991). Examining the situation further, we found that his new teacher could not understand what he was saying when he was trying to get her assistance. Because she did not provide assistance when he asked for it, he began to hit himself again, which tended to result in fewer demands being placed on him. In this study we found that, by improving the boy's articulation skills, the teacher responded appropriately, and the boy's challenging behavior was again reduced (Durand & Carr, 1991).

Recognizability of communicative attempts is of particular importance for students with the most severe disabilities. If a student cannot communicate with others in a way they can recognize, they will not respond appropriately, and the student will go back to what *does* work -- his or her challenging behavior. In our research with students having severe communicative disabilities, we have begun to use vocal-output assistive devices as the means of communication (Durand, in press; Durand & Berotti, 1991). We have found that not only can students with the most severe disabilities use these devices to communicate (Durand, in press), but untrained individuals in the community can also understand the requests being made by these students and can respond appropriately (Durand & Berotti, 1991).

For example, we recently worked with a woman with dual sensory impairments who would have a tantrum when she was bored. Intervention proceeded by teaching Donna to request tasks. Her vocal output device (a Wolf communication board) was programmed to say "I'd like something to do." Sessions began by having Donna spend a few moments alone at a desk. Donna was then physically prompted to activate the communication device. Teachers responded to her requests by guiding her to a table that displayed several activities from which Donna could choose. Soon after Donna completed the task, she was again required to spend some time independently. She quickly learned to use the communication device without prompts and in the past several months has very rarely been observed engaging in any disruptive behaviors.

The vocal output device has also been used to help Donna become more independent when she is out in the community. Donna is currently using the device to order drinks at Burger King and to request items she would like to buy at the grocery store. As mentioned earlier, this is an important advantage when using a vocal output device. Persons working at Burger King and the grocery store do not have to be specially trained to understand Donna's requests. By pressing a pad on the device, Donna can "say" the phrase "Sprite, please" without help. In contrast, if she used sign language to make her requests, it is likely that someone would be needed to help translate.

In addition, devices such as Donna's have at times been programmed to speak in both English and Spanish; this is useful when a student's parents speak only Spanish at home and the teacher speaks only English at school. These devices have permitted us to teach students to make relatively simple responses (pressing a pad on the machine) that can result in sophisticated output (full sentences). Again, because the output can be recognized by anyone, the success of communication training has been extended into the community.

Context

For communication to be successful, it has to occur within a context that will be responsive and supportive. If reasonable requests are being made by our students but the setting does not respond, then functional communication training will not be successful. Here, however, the problem lies not with the student or the particular response being taught but, rather, with the school, job site, or even the home. As we saw in the section on acceptability, at times there is a fine line between when the response is legitimately not acceptable (e.g., an adult asking strangers for a hug) and when the environment needs to change (e.g., not allowing a student to take a brief break from work on occasion). Durand and Kishi (1987) found that the initial success of functional communication training with one man was not maintained when staff refused to honor his occasional requests. Further research is needed to examine this aspect of training and to develop guidelines for adequate support.

Recommendations for Implementation

Specific techniques for teaching communication skills have been discussed previously and will be the focus of many of the other papers in this volume. Despite the wealth of important research on proper prompting, fading, and other teaching techniques, the actual teaching of communication skills may be among the easiest steps in reducing challenging behavior. When dealing with severe challenging behavior, the targets of intervention necessarily involve more than teaching one communicative response and responding to the behavior itself. Often, whole systems need to be re-designed to support these efforts (Durand, 1990; Horner, Dunlap, et al., 1990; Meyer & Evans, 1989). The more challenging aspect of this process is providing the proper supports for instruction and the necessary curricular and environmental modifications that may be essential for reaching the goals. For this type of intervention to be successful, several important components, such as a relationship between home and school/work and adequate training, must be in place.

Critical to the success of interventions for challenging behavior is *home-school collaboration*. Without a cooperative relationship between the school and home, any improvements observed following an intervention are likely to be short-lived and restricted to certain people, places, and/or times. Home-school collaboration, as used here, means more than just consultation by a teacher with a parent (Meyer, 1989).

Rather, it involves the ongoing relationship between the family and the school as they work together as a team.

In our own work in this area, we have targeted students with severe challenging behavior throughout New York State. Our training efforts have begun by developing a team of individuals who work and live with the student. These teams have included parents, other family members, teachers, school psychologists, speech therapists, and administrators. The initial training has been focused on the *team*. In addition to providing training to the team on how to assess the function of challenging behavior and design effective interventions, we have specifically focused on promoting the team process. Teams are encouraged to accept and adopt input from each member. No one approach is seen as correct; rather, the process of collaboration is seen as the most important first outcome. The "expert role" is downplayed, and trainees are encouraged to see the trainers as resources rather than the "givers of truth."

Another factor that is all too apparent is the lack of trained individuals to provide family and staff with guidance and training in the types of interventions described here. Successful intervention for severe challenges involves comprehensive assessment and the design of systems that can cover teaching new skills, changes in curricula, and developing support networks. Few people are sufficiently familiar with persons with severe disabilities *and* the types of assessments and interventions needed to adequately address severe challenging behavior. Initiatives are needed to train professionals in these complex skills.

In addition to preparing for and designing appropriate support systems, we need to re-assess how we focus our attention and resources on challenging behavior. Typically, a great deal of attention is placed on the students engaging in these behaviors only after serious harm has occurred, or after "everything has been tried and has failed." One new approach to this problem would be to adopt a *secondary prevention* strategy. Secondary prevention involves efforts to shorten the duration of existing cases through early referral, assessment, and intervention (Caplan, 1964). Perhaps a better way to proceed would be to set up systems that identify problems as they evolve but before they become serious. Secondary prevention would involve giving currently minor challenging behaviors the same intensive scrutiny now afforded to more serious problems (Dunlap, Johnson, & Robbins, 1990). The goal would be to determine how and why these behaviors were being displayed. Once this was determined, appropriate systems could be designed to prevent more serious behavior problems later on.

Recommendations for Future Directions

The study and treatment of challenging behavior has received a great deal of attention over the last 30 years. Yet, despite the interest and work in this area, there is still a great deal we do not know about these behaviors and their treatment. Because our accomplishments continue to emerge, there are many avenues of research which should prove fruitful. Below are several paths that may advance our ability to assist people having severe disabilities. (For a more detailed list of recommendations, readers are referred to Helmstetter and Durand, 1991.)

A Comprehensive Model of Behavior

Our understanding of the factors that influence the development and maintenance of challenging behavior continues to evolve. In order to fully assist intervention efforts, we need a more comprehensive model of these behaviors. We have become more sophisticated in our understanding of the more discrete influences on behavior (e.g., the role of positive and negative reinforcement) (Carr, 1977; Day, Johnson, & Schussler, 1986; Donnellan, Mirenda, Mesaros, & Fassbender, 1984; Durand & Carr, 1987; Evans & Meyer, 1985; Gaylord-Ross, 1980). Yet, we are only just beginning to understand how more complex events such as diet, relationships, medical conditions, mood, and sleep can affect challenging behavior (Gardner, Cole, Davidson, & Karan, 1986; Gardner, Karan, & Cole, 1984). It is expected that, as our understanding of these more complex events becomes integrated into a model of challenging behavior, intervention efforts will improve proportionately.

For example, many people describe how a person's mood can affect his or her behavior. "He was in a bad mood when he came in and was disruptive all day." "That first incident in the morning seemed to put her in a bad mood throughout the day." However, despite recent advances in our understanding of the nature of challenging behavior, a great deal is still unknown about this relationship between challenging behavior and mood. The influence of mood on challenging behavior has yet to be studied experimentally in persons with severe disabilities. Some of the questions to be addressed include: Can a "good mood" be induced, and will that lower rates of behavior problems? Can we prevent "bad moods," and will that, in turn, prevent challenging behavior? There is a great deal we still do not understand about challenging behavior, and more research is needed to further untangle these influences.

Assessment

Along with expanding our knowledge base pertaining to the influences on challenging behavior, we must, in parallel, continue to develop our assessment procedures. Such assessments should be capable of reliably identifying the influences on challenging behavior. One issue that will need to be addressed involves *ethical concerns* related to the use of some assessments. Specifically, there are several problems when using a functional analysis for assessing challenging behavior. Functional analysis involves (a) the manipulation of those events that are thought to influence the behavior of interest, and (b) the observation of any change in that behavior (Baer, Wolf, & Risley, 1968, pp. 93-94). For example, if we thought that teacher attention influenced a student's classroom behavior, a functional analysis would involve the systematic increase and decrease in teacher attention, and an observation of the student's behavior under these different classroom conditions. There is an obvious problem with an assessment that will result in increases in the problem behavior under certain circumstances (e.g., with decreased attention or when attention is a consequence). Especially with more severe cases of challenging behavior, it is difficult to justify any procedure that will potentially cause harm to the person or others.

An additional consideration specific to the use of consequences in a functional analysis is *the possibility of increasing the future probability of the behavior.* In other words, if attention follows screaming, and screaming increases, then attention is a reinforcer. If we are reinforcing screaming during the functional analysis (e.g., by repeated use of attention as a consequence), will this adversely affect the behavior outside of the functional analysis? Are we making the problem worse by doing this kind of assessment? This is a question that has not yet been answered and is one that should be addressed when considering the use of consequences in a functional analysis (Durand, 1993).

Augmentative Communication Strategies

One of the major obstacles to teaching communication as a way of replacing challenging behavior is the mode of output. Many students with severe disabilities have historically had difficulty acquiring formal communication skills. One alternative to both spoken and signed speech is the use of augmentative communication systems (Baumgart, Johnson, & Helmstetter, 1990; Reichle, York, & Sigafoos, 1991). These systems are formal or informal strategies that assist communication efforts instead of or in addition to spoken speech. These strategies have included using communication boards that require students to point to pictures (Mirenda, 1985; Rotholz, Berkowitz, & Burberry, 1989), vocal output devices (Dattilo & Camarata, 1991; Mirenda & Beukelman, 1987), and a variety of other adaptations (Mathy-Laikko et al., 1989). Vocal output systems have several advantages over other augmentative systems. Most importantly, others may be more likely to respond to vocal output devices over communication boards. Calculator and Dollaghan (1982), for example, have noted that less than two-thirds of the initiations made by students with communication boards (i.e., picture books) are responded to by adults. If individuals do not respond to the communication of these students, the applicability of such an intervention approach for community settings is limited. Fortunately, a variety of vocal output devices is currently commercially available and may be used to promote effective communication among persons with profound or multiple disabilities.

In order to provide students who have severely limited communication skills with the ability to request reinforcers, we have recently incorporated the use of vocal-output communication devices for use with functional communication training (Durand & Berotti, 1991). These devices should allow students to provide *minimal input* (e.g., touching a pad) that results in *easily recognizable output* (e.g., a voice generated from the device requesting reinforcers in full sentences). For example, for a student with escape-maintained problem behavior, it is possible to teach her to activate a device that will produce the sentence "Would you help me with this, please?" Using state-of-the-art technology to provide students with a means of communicating wants/needs should result in reduced rates of challenging behavior.

Primary Prevention

Until recently, there have been relatively few demonstrations of the potential of early intervention for persons with severe disabilities. Fortunately, several groups have begun to apply intervention procedures with young children in an effort to prevent more serious, later problems (e.g., Dunlap, Johnson, & Robbins, 1990; Lovaas, 1987). One of the logical outgrowths of a communication hypothesis of challenging behavior may be specific guidelines for efforts to prevent these serious behaviors.

If some forms of challenging behavior develop primarily from a combination of a person's inability to effectively communicate his or her wants and needs in a more acceptable manner, and/or from an unresponsive environment, then it may be possible to intervene with children and their environments *before* these behaviors are exhibited. In other words, in addition to attempting to reduce already existing behaviors and identifying emerging problems (secondary prevention), it may be possible through specific early communication training and environmental design to prevent some instances of serious challenging behavior altogether (primary prevention). Again, viewing some challenging behavior as a form of nonverbal communication provides specific predictions about what types of early intervention efforts may be most effective in preventing problem behavior.

Conclusion

We have reviewed recent work that has focused on replacing challenging behavior with communication, using a technique known as functional communication training. A growing body of research supports this approach to treatment as an effective way to reduce even the most severe forms of behavior problems. In addition, this intervention strategy complements efforts to include persons with the most severe disabilities into regular education settings and other community environments. Recommendations were made to promote this type of treatment for challenging behavior by focusing on home-school collaboration, leadership training, research on the influences on challenging behavior, research on assessment methods, and work on prevention strategies. It is encouraging that positive strategies are being developed to affect meaningful outcomes for persons with severe disabilities and challenging behavior.

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Communication Intervention for Individuals with Dual Sensory and Intellectual Impairments

by
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Communication intervention for individuals with dual sensory impairments (deaf-blindness) continues to receive considerable attention as a critical need in the field. While significant advances certainly have been made, many individuals with both a dual sensory impairment and a severe intellectual impairment continue to experience extreme difficulty making their needs known. Although various means of communication have been tried with this population, truly effective interactions remain elusive. The extreme diversity of this population makes it difficult to address their equally varied communication needs.

To keep the focus on individuals having a dual sensory and intellectual impairment, those individuals who are labelled deaf-blind but who are not intellectually impaired and who do use language (spoken, signed, or written) will not be addressed in this paper. Instead, this paper[1] presents a summary of current best practices for communication assessment and intervention with those individuals who have difficulty both receiving and understanding auditory, visual, and tactual information. Recommendations for future intervention research and strategies address the areas in which greater development is needed to ensure effective communication skills for all individuals with this challenging disability.

Effective communicative exchanges often prove difficult for individuals with severe disabilities. This difficulty is exacerbated when the severe disability is both a dual sensory and intellectual impairment (Jensema, 1979; Rowland, 1990; Siegel-Causey & Guess, 1989). Helping these individuals develop and enhance communication skills poses a major challenge for direct service providers, many of whom have had limited experience and/or training in this area.

Perhaps one of the greatest hindrances to effective intervention is determining the makeup of this population. Many equate the label *dual sensory impaired* (or, more commonly, deaf-blind) with the familiar figure of Helen Keller and anticipate needs of the population accordingly. Despite the popular association with this very talented woman, the majority of individuals labelled deaf-blind do not fit this classic picture. In fact, 60% of the population with this label also have intellectual, physical, and behavioral disorders that seriously impact their ability to interact with others in a desired and conventional manner (Jensema, 1979; Stein, Palmer, & Weinberg, 1982). Unlike Helen Keller, most individuals with dual sensory, intellectual, and other impairments do not have a language per se (whether spoken English or American Sign Language) but attempt to make basic needs known by whatever means available to them. Since their unique situation poses such a profound challenge to interventionists, the target of this paper will be this group of individuals having severe sensory and intellectual (plus additional) disabilities.

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Even within the subpopulation of people labelled dual sensory impaired who have intellectual and other impairments, an extreme diversity exists with regard to ability and needs. A few individuals have no functional hearing or vision. Others may be primarily visual learners with limited auditory ability; still others have no functional vision but have some ability to hear. Some individuals (labelled functionally deaf-blind) have no apparent physiological impairments of either sensory mode, yet do not make use of visual or auditory information. The purpose of this paper is to present the communicative interventions most often employed with these individuals and to suggest areas in which future efforts can be directed.

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Impact of Sensory Losses on Communicative Development

The development of effective communication skills relies heavily on appropriate sensory input and the ability to interpret that input during the early developmental years. Individuals with congenital sensory impairments, especially those with additional impairments, are at extreme risk for exhibiting delays in communicative skills (Rogow, 1988; Siegel-Causey, Ernst, & Guess, 1988). Visual and auditory information provides motivation for the young child to explore the environment, interact with people and objects, and understand the interrelationships between actions and events. Furthermore, these two sensory modes, especially vision, allow for considerable incidental learning. Approximately 90% of what a person perceives is obtained via the visual mode (Barraga, 1986). Since language learning depends heavily on accurate sensory input, the impact of any severe visual and hearing loss on the developing child will be significant. Compounding a vision and hearing loss with an intellectual (and possibly physical) impairment makes it clear why individuals with these multiple disabilities often experience difficulty in understanding or influencing their physical and social environments.

For example, at two years old, Carrie exhibits behaviors that reflect a severe intellectual delay. Without vision or hearing, Carrie has not associated a basic vocabulary with meaningful people, objects, and events. She fears exploration of her world because it often results in painful accidents, and her physical impairments limit her ability to explore interesting items tactually. When she screams or thrashes, she gets picked up; besides this, she prefers to explore her own body, which is safe, readily available, and stimulating. She has learned to arch her back, shake her head, and scratch, pinch, or slap body parts for the stimulation these behaviors provide. This behavior is all absorbing and is not reinforcing for careproviders and other children. Carrie is left alone for long periods of time.

When a formal language is not learned, individuals with this complex disability rely heavily on partial communication systems. Some individuals may have a few formal signs (but are not fluent in American Sign Language). These people may also make use of facial expressions, vocalizations, gestures, and body movements, as well as manipulations of objects, pictures, and/or textures. Communication with familiar others may be somewhat effective but is usually limited to a few concrete referents representing needs, wants, and rejections, all very much bound to the present (e.g., pushing a bowl of food away to mean "finished"). Expressing abstractions (such as feelings, dreams, thoughts, or ideas about past or future events) often is not possible. This lack of meaningful expression and reception of ideas and feelings results in considerable frustration, which is sometimes manifested in behaviors often labelled socially inappropriate or unacceptable (Durand & Kishi, 1987; van Dijk, 1985). As the individual ages into adulthood, the continued inability to communicate effectively results in social isolation, frustration, and, presumably, depression.

General Practices for Communication Intervention

A review of the literature in effective communication strategies for the target population indicates that some areas overlap with interventions used for students labelled severely intellectually impaired (but no sensory loss). While much of the content area of the literature has significant implications for students with a dual sensory impairment, certain modifications may be needed.

A Functional Approach to Intervention

The functional approach to communication intervention recognizes that the acquisition of meaningful skills is highly individualized and depends to a great extent on individual needs and environmental demands (Rowland & Stremel-Campbell, 1987; Siegel-Causey, Ernst, & Guess, 1988). This approach emphasizes the unique situation of each individual and anticipates that, to a large extent, acquisition of skills depends on motivation (as determined by need and desire) and expectations of social roles in natural environments. Using this approach, an individual with dual sensory and intellectual impairments may learn some symbolic communicative behaviors (e.g., using a smooth texture to request a drink), even though developmental scales might indicate that this individual does not exhibit the necessary "prerequisite" skills (e.g., sustained eye contact, reaching for an object).

Intervention is initiated based on an individual's need to communicate in a typical circumstance. The focus is not on helping the individual acquire developmental milestones but, rather, on enhancing specific skills for that individual within meaningful socio-communicative situations. All students are considered able to communicate and are not required to demonstrate skills that typically precede more formalized linguistic expression (Downing & Siegel-Causey, 1988; Siegel-Causey & Downing, 1987).

Assessing Communication Skills and Needs

The recognition that students communicate not at certain times of the day and in special environments with specially certified professionals but as the need and motivation arise throughout a typical day requires a unique type of assessment approach. Isolated test procedures that determine performance levels on some standardized form or checklist may severely underestimate actual communicative skills. Furthermore, such tests typically fail to evaluate the social environment and the real need and/or opportunities to communicate.

In order to be beneficial, assessment of communication skills must lead to practical intervention techniques. As such, a functional-ecological approach that identifies communication demands of the social environment and unique individual skills and discrepancies is recommended (Downing, 1989, in preparation). Assessment is individualized and contextual, and is shared as an ongoing responsibility by all direct service providers. Communication needs of each individual are identified within the context of meaningful activities, and observed discrepancies in performance are targeted for intervention (see Figures 1 and 2). The assessment process looks at the means and functions of communication required for a variety of interactions (see Stremel-Campbell, Clark-Guida, & Johnson-Dorn, 1984; Tedder & Sikka, 1992), with an emphasis on the communication strengths and limitations of all interactants. A team decision is then used to determine the most efficient intervention strategies for all communicators. As the student gains skills and/or as life needs change, additional activities and environments that are meaningful for the individual are assessed. The assessment process is ongoing, cumulative, and dynamic, not static.

From Assessment to Intervention

A functional-ecological assessment guides the team decision regarding the most effective teaching strategies to enhance communication skills. Specific techniques focus on what communicative partners can do to enhance the social atmosphere. These techniques involve reinforcing initial communicative attempts by being responsive to the intent of the student (Siegel-Causey, Ernst, & Guess, 1988); creating opportunities throughout

Figure 1
Functional Communication Assessment Form

Student:

Activity:

NH Person Inventory (Steps)	Cues to Prompt Behavior (Visual, Auditory)	Student Performance + −	Discrepancy Why Not?	Teach or Adapt? What needs to happen?

Figure 2: Functional Communication Assessment Sample Activity

Student: Chris Age: 9 Activity: Eating lunch w/friends in school cafeteria

NH Person Inventory (Steps)	Cues to Prompt Behavior (Visual, Auditory)	Student Performance		Discrepancy Why Not?	Teach or Adapt? What needs to happen?
		+	-		
1. Go to cafeteria	Teacher direction, bell, peers going		–	Does not understand meaning of bell or teacher direction	Have peers cue him to check schedule & make sure he goes w/them
2. Wait in line	Others waiting in line	+			
3. Get tray & utensils	Stack of trays, utensils, and model of others	+			
4. Indicate choice of drink for lunch	Cafeteria worker asks the question		–	Does not understand he has a choice; no speech	Cafeteria worker holds up 2 choices
5. Pay for lunch	Cafeteria worker asks for tickets		–	Does not understand need to pay	Peer cues him to present ticket (kept in fanny pack)
6. Find seat	Tables & chairs	+			
7. Eat lunch	Food, hunger, others eating	+			
8. Engage in social conversation w/friends	Others engaged in conversation		–	Nonverbal; does not know how to respond, imitate	Teach use of pictorial conversation in book; teach peer to use it
9. Clean up	Dirty tray, trash; knowledge of routine; peer models		–	Does not understand the routine	Peer cues by pointing & modeling

each activity for communication (Downing & Siegel-Causey, 1988); and creating social environments (cooperative learning, peer buddies, shared materials, physical proximity) (Downing & Eichinger, 1990). Other techniques focus on the specific interaction with the individual, with the intent of shaping limited behavioral repertoires into more established and conventional behaviors. Toward this goal, interventionists have demonstrated the effectiveness of modeling the desired behavior (Rowland & Stremel-Campbell, 1987; van Dijk, 1985); using prompt delay to encourage the student's initiative behavior (Goetz, Gee, & Sailor, 1985; Halle, Baer, & Spradlin, 1981); and fading instruction (Halle, 1987; van Dijk, 1966, 1985).

Multimodal Approach to Intervention

Since communication needs and abilities are extremely diverse, determination of the one most appropriate mode of communication for these individuals may not be possible. Current thinking recognizes the value of exploring a variety of possible communicative modes both for reception and expression (Allaire, Gressard, Blackman, & Hostler, 1991; Downing & Siegel-Causey, 1988; Hamre-Nietupski, Nietupski, & Rathe, 1986; Mirenda & Iacono, 1990; Reichle & Karlan, 1985). This approach is particularly appropriate for individuals with dual sensory impairments whose limited sensory input demands a wide range of communicative options.

Individuals with dual sensory and intellectual impairments often receive instruction in manual signs as one of the first options. While American Sign Language (ASL) is the fourth most commonly used language in the United States, and certainly the language most frequently used by those who are deaf, its benefits for children labelled dual sensory and intellectually impaired remain in question (Bryen, Goldman, & Quinlisk-Gill, 1988; Rotholz, Berkowitz, & Burberry, 1989; van Dijk, 1985). American Sign Language is a true abstract language with its own semantic and syntactic structure (Klima & Bellugi, 1979). It also is a visual-spatial language requiring motoric dexterity, visual or tactile perception, and extensive cognitive abilities. The requirements of such a language make it questionable as the most effective means of communication for this population of individuals having visual, intellectual, and possibly physical impairments. As a result, many individuals may use a few manual signs (not ASL) for both reception and expression, but must rely on other modes of communication when the appropriate sign is not known or cannot be physically produced, or when the communicative partner has no knowledge of a manual system.

Considerable effort has gone into developing and teaching alternative modes of communication. Interventionists have reported on the use of:

- nonsymbolic communicative modes (gestures, facial expressions, body movements) (Siegel-Causey & Downing, 1987; Siegel-Causey & Guess, 1989);

- tangible symbols (objects or parts of objects) (Rowland & Schweigert, 1989);
- pictorial symbols (photographs, line drawings) (Hunt, Alwell, & Goetz, 1991; van Dijk, 1985); and
- textured symbols (Murray-Branch, Udvari-Solner, & Bailey, 1991).

Determination of the most effective modes of communication vary depending on the ability level of student, the ability of the audience with whom that person interacts, and the motivational level of the individual. One student with dual sensory and intellectual impairments may well use several modes of communication throughout each day as abilities, needs, and social expectations change. For example, Sid uses eye contact and facial expressions to greet peers, express feelings, and clarify intent. He also uses five signs to express basic generic needs (want, help, eat, more, and drink), and he extends or points to objects to clarify intent and to comment on things of interest.

Facilitating Communicative Development

While basic principles of effective communication intervention for individuals with severe disabilities hold considerable value for the target population, certain adaptations are needed to compensate for the sensory loss. These adaptations take the form of developing unique augmentative communication devices, teaching compensatory strategies to help the individual make use of residual sensory input, and using specialized prompting techniques. These adapted strategies are felt to be most effective when learning environments are normalized for the individual and when an effective team approach is used.

Creating an Optimal Communication Environment

Proponents of the inclusion model (Downing & Eichinger, 1990; Giangreco, Dennis, Cloninger, Edelman, & Schattman, 1993; Hamre-Nietupski, McDonald, & Nietupski, 1992; Stainback & Stainback, 1992; Thousand & Villa, 1990) recognize the importance of educating all individuals in their home schools and communities. Factors such as the importance of family and friends, the difficulty with transferring learned skills to the natural environment, and the need to build natural community support systems are the guiding principles behind the rationale for educating individuals with dual sensory impairments in their home schools and communities.

Obviously, placement issues play a major role in communication intervention. It is difficult to maintain the critical role of the family as team members when the individual lives far from home. Identifying activities, environments, and people with whom the individual must learn to communicate becomes particularly challenging when that individual is being taught in an entirely different community.

Enhancing communicative options for individuals with the deaf-blind label requires broadening the number of natural communicative partners. It is imperative to specifically teach parents, siblings, nondisabled students, and coworkers how to interact with this individual. These critical communication partners will need to be taught how to respond to an extremely limited behavioral repertoire, what to do in the case of nonconventional and inappropriate behaviors, and how to encourage daily interactions. In addition, these people serve as the role models for appropriate communicative behavior. When individuals with this disability are homogeneously grouped residentially, for leisure, work, or instruction, the limited communication skills of all present make it extremely difficult to enhance skills. Ongoing daily interactions with highly responsive and competent communication partners are recommended. Nondisabled peers of all ages and family members are likely candidates to provide the necessary communicative support.

Using the Team Approach Effectively

When individuals have dual sensory and intellectual impairments, the number of potential team members can be quite large. Given the target population's complex learning and communicative needs, no one professional can be expected to address all problem areas. The knowledge, skills, and experience of many individuals working collaboratively are essential. Information is needed on options for alternative and augmentative communication modes. Vision assessments must be interpreted to assist in the development of appropriate augmentative communicative modes that best meet the visual skills and abilities of the individual. Information from audiological exams, audiograms, and functional hearing assessments can address the need for reduced environmental noise, amplification, recommended distance from the speaker, and potential use of manual sign systems. Team members need to determine the most appropriate position(s), range of motion options, methods of message selection (direct, scanning, encoding), and the need for any physical adaptations to make the communication exchange most efficient.

The primary direct service provider incorporates the expertise of all team members into a unified program that addresses the individual's communication needs throughout each day. This provider is in an excellent position to identify communication skills and limitations as they naturally occur during meaningful and age-appropriate activities.

Family members are essential to any effective intervention strategy; they can provide critical information concerning communicative skills displayed at home, as well as communicative needs. Their input must be obtained to determine present and future plans for their child, such as friendship development and participation in typical social events (Giangreco et al., 1993). Such input provides the necessary direction for communication skills intervention. In addition, nondisabled peers will need to be encouraged to provide valuable information on content, age-appropriate means of expression, and the need for communication in typical environments. These peers, as equal communication partners for the individual with dual sensory and intellectual impairments, need to problem-solve with other team members to ensure that the intervention is age-appropriate and acceptable to the peer group.

Integrating available services works best when team members are provided with the time to collaborate and are allowed to contribute what they *can* to the process of intervention versus what they are *expected* to contribute based on certification or training (York, Giangreco, Vandercook, & Macdonald, 1992). Intervention in this manner requires considerable role release, respect for other discipline expertise, and a person-centered focus that takes precedence over professionals' schedules and areas of specialization.

Developing Augmentative Communication Modes

When vision and hearing losses plus intellectual impairments interfere with conventional receptive and expressive communication, alternative modes must be developed. Determining the most effective modes of communication for a given individual depends on that person's needs and preferences, as well as his or her learning mode.

For students who are able to see manual signs clearly, reproduce these signs clearly, and recall these signs as needed, and who have access to others who understand the signs, a manual system may be effective. Some may respond well to the signs presented to them (both visually or tactually), but may not use these signs for expressive purposes. The problems of relying solely on manual signs for all communicative purposes are the limited audience knowledgeable in sign systems (especially modified ones) and the physical and cognitive demands placed on the person.

For many individuals with this disability, augmentative communication devices provide the necessary additional adaptation for more effective interactions. However, given a substantial visual impairment, the customary use of pictorial and/or graphic symbols for such devices may not be sufficient. Pictures may need to be enlarged, contrasted with color, and/or color highlighted. Some individuals with color vision may learn to associate given symbols with the color, even if unable to see the actual design (Bailey & Downing, in preparation).

Individuals with insufficient vision to receive visual information for communication will need to be taught how to make use of auditory information. To assist such an individual, information of this nature can be amplified, provided with limited background noise, and presented at a reduced rate of speech. With insufficient hearing to detect speech clearly, exaggerated tone of voice can provide added information (e.g., the rise in intonation at the end of a sentence typically signifies a question is being asked).

A relatively small number of individuals will require a tactile mode of communication when both visual and auditory modes provide insufficient information for effective communication. Tactile communication modes have been developed which make use of real-life objects to represent events (Writer, 1987; van Dijk, 1984), parts of objects or miniatures (Rowland & Schweigert, 1989), and abstract textured symbols (Mathy-Laikko et al., 1989; Murray-Branch et al., 1991). The systematic pairing of these tactile objects or textures with their corresponding referent provides the individual with a means of expressing needs and of understanding upcoming events. Since none of the adapted augmentative devices represents a complete communication system for a given individual, such devices must be paired with instruction in the use of nonsymbolic modes (e.g., facial expressions, gestures, vocalizations), especially when such communicative behavior clearly conveys the message. Determining the most effective augmentative communication modes to use per social situation requires a careful team analysis, the creativity of various team members, and systematic experimentation with the selected devices.

Compensatory Teaching for Effective Vision and Hearing Use

Some individuals may have sufficient sensory input to make some use of pictorial/written augmentative communication devices or oral language. However, without the proper training in interpreting visual and/or auditory input, the individual may not be able to rely on this type of sensory input. The individual must be taught how to use vision and hearing before effective interactions with the environment are possible.

Associatively pairing the visual or auditory stimuli with the response that follows helps the individual make sense of incoming visual and auditory stimuli (Bailey & Downing, in preparation). Repetition for practice, consistency of presentation, and exaggeration of visual/auditory information represent strategies used to teach the individual to make sense of incoming, albeit limited, sensory input. Once the individual learns the relationship between auditory and/or visual stimuli and the resulting event, more readily available communication modes (speech, pictorial communication devices) can be employed. As with the instruction of communication skills, teaching an individual to make use of sensory information occurs during typical and meaningful activities, not in isolation.

Prompting Techniques that Bypass the Sensory Impairment

Since the visual mode provides the greatest access to information, it is not surprising that most teachers focus on this sensory mode. Teachers typically model the desired response and rely on visual imitation for student acquisition of skills. Verbal instruction is provided to clarify the demonstration. The individual with dual sensory and intellectual impairments may not receive or understand enough of this type of information to meet teacher expectations.

Ensuring that information is received by the individual requires the addition of tactual information. The use of common objects to signal upcoming events is one such form of tactual input. For example, the individual is cued to go dress for swimming by placing the swimsuit in his or her hands. Touch cues (often in conjunction with objects) also clarify teacher direction (e.g., a touch on the hand signifies that it is time to begin work following a break). Considerable information can be shared with an individual via the use of specific touch cues (Rowland & Stremel-Campbell, 1987). Pressure against someone's shoulder to prevent forward movement signals the need to stop or wait. A pat on the shoulder can indicate satisfaction with one's work. A brush along the forearm can be a sign of greeting. These touch cues, provided contextually and paired consistently with events, can convey at least some of the information available through more conventional visual and auditory behaviors.

Physical manipulation of an individual's hands and body to perform tasks occurs frequently with this population, due to the absence of sensory information and, therefore, reduced ability to respond to natural cues in the environment. Though physical manipulation provides the necessary information, it may promote a form of learned helplessness by teaching the individual that the interaction requires this type of hand-over-hand manipulation. Spontaneity of expression may be reduced as the individual learns to respond to communicative requests but does not learn to initiate interactions. To avoid this situation, a systematic procedure for fading physical assistance as soon as possible is recommended (Halle, 1987; van Dijk, 1985).

Based on van Dijk's (1966) theories of communicative intervention for children labelled deaf-blind, a movement-based approach that requires the teacher to move co-actively with the child holds considerable merit for the student with limited sensory input (Writer, 1987). Initially, the teacher moves with the individual as a form of tactual modeling or shadowing in order to establish desired communicative behaviors. The distance between student and teacher is increased as the desired behavior is acquired. The ability to increase distance from the individual and fade assistance is most likely when activities are structured in such a way that they become easily recognized routines. One step of the activity cues the individual to perform the next step. The individual internalizes the routine to avoid relying on external sensory information (e.g., natural cues in the environment) that are not readily available due to the sensory losses. Careful adherence to the steps of the activity in the sequence preferred by the individual and effective manipulation of tactual items in the environment can reduce the need for excessive and highly directive physical prompting.

Future Recommendations

A number of recommendations can be made to address the critical problems associated with serving individuals with dual sensory impairments and intellectual impairments.

Collaboration Between Organizations

Organizations serving people with dual sensory impairments will need to collaborate on efforts to find the most efficient and effective means of communication skill intervention. The Association for Persons with Severe Handicaps (TASH), the American Speech-Language-Hearing Association (ASHA), the Association for Education and Rehabilitation of the Blind and Visually Impaired (AER), the American Association of the Deaf-Blind, and the American Foundation for the Blind, Deaf-Blind Project, have considerable knowledge related to serving students with dual sensory and intellectual impairments. Although the knowledge base comes from different perspectives, the ability of these organizations to impact service providers on a national level can be considerable. The different areas of expertise which each of these organizations possesses need to be integrated into a body of knowledge that is readily available to the practitioner and in an easy-to-implement form. Collaborative efforts could occur in research activities to identify more effective means of facilitating communicative development, personnel preparation to increase the number of skilled professionals for this population, and technical assistance efforts to provide needed knowledge and skills to service providers and families currently supporting individuals with this disability.

Increasing the Number of Potential Communicative Partners

Limited attention has been paid to the critical area of social interactions with nondisabled peers (of any age). Despite the extreme loneliness and isolation associated with this disability (Smithdas, 1981; van Dijk, 1966), efforts to develop natural supports (friendships) have yet to receive the attention they deserve. The focus has remained on communication training by teachers, emphasizing the acquisition of basic communicative functions (e.g., requesting, rejecting) (Halle, 1987; Romer & Schoenberg, 1991).

Since communication is a dynamic interaction between individuals, future efforts must address the need to teach potential communicative partners the unique ways of communicating with someone who is dual sensory and intellectually impaired. Building on the work done by Hunt, Alwell, and Goetz (1991), nondisabled peers and individuals with dual sensory and intellectual impairments can learn to become conversational partners who use other functions of communication besides requesting and rejecting. For example, a student with this disability can use a specially adapted scrapbook of collected objects acquired on various outings to show peers. Turning pages, pointing to objects, and receiving tactile cues back from peers (e.g., pats on the hand) takes the place of the typical verbal exchange. The interactive nature of true communication requires that both conversational partners understand and make use of multimodes of communication. Intervention will need to target both partners, not just the individual with the disability.

Early Intervention

Little disagreement exists over the need to provide support services to children with this low incidence disability. Limited sensory input severely impacts the developing child, making it extremely difficult for the child to understand causal relationships in the environment that are so critical to basic language skills (Michael & Paul, 1991; Walker & Kershman, 1981). The longer the child has difficulty receiving and interpreting sensory information, the greater the likelihood of the child turning inward and becoming less responsive to the social environment. The negative impact of sensory deficits on the development of language and learning is clear. Children with dual sensory impairments cannot be expected to respond to stimuli they cannot detect.

The relatively new focus on the family for early intervention efforts has particular relevance for the young child with this complex disability. Since such a child may not respond as expected to visual and/or auditory stimuli (mother's face, sound of father's voice, etc.), careproviders must receive specific support on how to most effectively communicate with their child (Siegel-Causey, Ernst, & Guess, 1988). Both caregivers and the child require ongoing support from birth to develop alternative and satisfactory ways to interact.

Technology

Technological advances in the field of special education and augmentative communication have greatly impacted professionals' abilities to meet the needs of those they serve. Technology exists to improve visual functioning, auditory functioning, motoric functioning, and communicative reception and expression. Technology also exists to bypass limitations imposed by sensory and physical disabilities (e.g., vibrotactile communication aids, computers with synthesized speech output).

Traditionally, technological advances have been employed with students who have disabilities but who are able to demonstrate understanding of the technological tool. Individuals with a dual sensory impairment that is compounded by an intellectual impairment have not benefited substantially from the onslaught of advances in the technological field. These individuals may be excluded from technological assistance due to their perceived inability to make use of these tools (Fredericks & Baldwin, 1987; Jones, Spellman, & Ozier, 1988; Locke & Mirenda, 1988; Schweigert, 1987). On the other hand, a study by Parker et al. (1990) suggests that it is in fact the professionals who may feel reluctant to use technological aids, due to their lack of familiarity, knowledge, and skills.

Hindered by the inability to access sensory information (as well as interpret this information), individuals with this disability need every opportunity to bypass barriers to their learning potential and experience effective technological alternatives. While some researchers have explored the potential of teaching contingency awareness to individuals with complex needs (Schweigert, 1987, 1989), a broader use of technology to address more comprehensive communicative needs has yet to be fully investigated.

Personnel Preparation and Inservice Training

Since the incidence of individuals with deaf-blindness is quite low

(Fredericks & Baldwin, 1987), it is not surprising that an equally low number of skilled personnel exists to support these individuals. Information concerning the impact of sensory losses on the developing child and adult, especially with regard to communication, must become part of course content required for teacher and related staff certification for this population. In addition, a multidisciplinary approach at institutions of higher learning is recommended to model and teach the collaborative skills needed when diverse groups of professionals converge to support a given individual.

Given the complexity of communication needs and the fact that available adaptations and strategies change so quickly, it is difficult even for experts in the field to stay on top of the most current information. Due to the paucity of trained professionals in this field, efforts must be taken to provide preservice and inservice training where needed. The increased interest in and development of long distance learning and interactive satellite teleconferencing (Parsons, 1990; Sanspree, Allison, & Gargiulo, 1991) may provide the means of getting the necessary information to those faced with the challenge of supporting an individual labelled deaf-blind. Educating the professionals who serve these individuals in their home communities would build stronger familial and community supports.

Summary

For individuals with dual sensory and intellectual impairments, the lack of effective communication skills places severe limitations on their learning potential and sense of belonging. Educational intervention for this population has recognized the critical need to develop communication skills, yet the complexity of the individual's needs continues to plague progress. The unique needs and situations of individuals in this category, coupled with the extremely limited numbers of trained and experienced professionals, challenge the field to develop creative means of addressing this vital issue.

Documented case studies provide the field with examples of potential options to employ when addressing the communicative needs of individuals with dual sensory and intellectual impairments. However, these case studies provide partial communication systems that address partial communicative needs. Providing individuals having severe sensory, intellectual, and other disabilities with a true language that can meet all communication needs, both receptive and expressive, is still beyond our grasp. Future efforts with this focus will need to combine early intervention, creative technology, and principles of normalization in order to be successful.

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American Foundation for the Blind, Deaf-Blind Project, 15 W. 16th St., New York, NY 10011. Telephone: (212) 620-2000.

American Speech-Language-Hearing Association (ASHA), 10801 Rockville Pike, Rockville, MD. Telephone: (301) 897-5700.

Helen Keller National Center - Technical Assistance Center (HKNC-TAC), 111 Middle Neck Rd., Sands Point, NY 11050-1299. Telephone: (516) 944-8900 (Voice/TDD).

ISAAC (International Society for Augmentative & Alternative Communication), P.O. Box 1762, Station R, Toronto, Ontario Canada M4G 4A3. Telephone: (416) T37-9308.

Teaching Research Assistance to Children & Youth Experiencing Sensory Impairments (TRACES), Teaching Research Division (WOSC), 345 N. Monmouth Ave, Monmouth, OR 97361. Telephone: (503) 838-8150.

Technological Aids:
A Sample of Software Used With Children With Dual Sensory Impairments

Title: **Charlie Brown's ABC's**
Description: Alphabet software with large print, large animated graphics
Use With: Standard Keyboard, Unicorn Keyboard, AFC
Publisher: American School Publishers, Princeton Road, P.O. Box 408, Hightstown, NJ 08520
Telephone: (800) 843-8855
Available From: Local Computer Store

Title: **Creature Antics, Creature Capers, Creature Features**
Description: Animated Cause and Effect Software
Use With: Standard Keyboard, Touch Window, AFC, Switches
Publisher: Laureate Learning Systems, Inc., 110 East Spring Street, Winooski, VT 05404
Telephone: (802) 655-4755
Available From: Laureate, Don Johnston, Computability, Access-Unlimited

Title: **Explore-A-Story, Explore-A-Science, Explore-A-Classic**
Description: Software with Moveable Graphics
Use With: Standard Keyboard, Joystick, Mouse, AFC
Publisher: D.C. Heath & Company, 125 Spring Street, Lexington, MA 02173
Telephone: (617) 860-1847
Available From: D.C. Heath

Title: **McGee, McGee Visits Katie's Farm, McGee at the Fun Fair**
Description: No words Preschool Software
Use With: Apple llgs
Publisher: Lawrence Productions, Inc., 1800 South 35th St, Galesburg, MI 49053-9687
Telephone: (800) 421-4157
Available From: Local Computer Store

Title: **Muppet Slate, Seasons and Special Days, More Special Days**
Description: Large Print Word Processor With Pictures
Use With: Muppet Learning Keys, Standard Keyboard, Unicorn Keyboard
Publisher: Sunburst Communications, 39 Washington Ave, Pleasantville, NY 10570
Telephone: (800)431-1934
Available From: Sunburst Communications

Title: **Stickybear ABC, Stickybear Numbers, Stickybear Opposites**
Description: Preschool Software With Large Colorful Graphics
Use With: Standard Keyboard, Unicorn Keyboard, AFC
Publisher: Weekly Reader Software, 245 Long Hill Road, Middletown, CT 06457
Available From: Local Computer Store

Title: **Touch'N Match, Touch'N See**
Description: Picture and Word Matching Software
Use With: Touch Window
Publisher: Edmark Corporation, P.O. Box 3903, Bellevue, WA 98009
Telephone: (206)746-3900
Available From: Edmark Corporation

Title: **Touch'N Write**
Description: Software for Handwriting Skills, Visual Motor Skills
Use With: Touch Window
Publisher: Sunburst Communications, 39 Washington Ave,
Pleasantville, NY 10570
Telephone: (800)431-1934
Available From: Sunburst Communications

Effective Communication Programming for Language Minority Students with Severe Disabilities

by

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By the year 2000 there will be increasingly greater numbers of language minority students enrolled in regular as well as special education classes. Already, the U.S. Office of Special Education Programs (OSEP) reports that growing numbers of minority children and youth are being placed in classes for students with severe disabilities. Teachers in both regular and special education will need to find ways to meet the communication and other educational needs of language minority students with severe disabilities. Many of the teachers in special education will need to learn how to utilize a variety of approaches used in English as a second language (ESL) instruction in order to address the needs of their language minority students with disabilities.

This paper provides information on how the classroom participation and communication of language minority students with severe disabilities can be facilitated and improved through the use of many English as a second language (ESL) methods.[1] *These methods are described in this paper, as is research investigating how teachers have effectively used these methods with language minority students with severe disabilities. In order to illustrate how ESL methods have been successfully adapted to the needs of language minority students with severe disabilities, several anecdotal examples are also provided.*

From the time language minority children with severe disabilities are born until they become adults, many hear, speak, and receive direct information only in their home or first language (L1). Consequently, they may develop only a limited proficiency in English or have no English proficiency at all. When such students are taught only in English, they often do not know how to respond to what the teacher is asking them to do. To further compound the problem, teachers may be unaware that their students' lack of response or apparent confusion is due to the fact that the students do not understand English. Communication problems are even greater for those language minority students who are unable to speak because of their disability. Not only do these students not understand what is being said to them, they are unable to tell the teacher or other careproviders that they do not understand.

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Cummins (1980) notes that it takes from two to three years for language minority students to be able to use the second language (L2) effectively in interpersonal communication. Five to seven years of study are usually necessary before language minority students can use the L2 for academic purposes, such as what is typically required in the classroom. Language minority students who also have severe disabilities may take even longer periods of time to learn to use the L2 for either interpersonal or school-related purposes.

Teachers will find it useful to know that several methods commonly used in English as a second language (ESL) classrooms have been used effectively with language minority students who have severe disabilities. These methods have proven useful in helping teachers to communicate with their students and have helped the students to communicate with their teachers. The ESL methods, which are described below, allow students to make use of all of their senses as they learn the second language. Incorporating the students' home culture into instruction can also be an important factor in motivating students to learn the second language.

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A Description of ESL Methods

There is a paucity of literature in the area of how to assist language minority students with severe disabilities to communicate as well as to speak or be verbal. Writers such as Baca (1984), Chinn (1984), and Ortiz and Ramirez (1989) have noted that educational preparation and inservice training of teachers and other careproviders of language minority students need to include bilingual and English as a second language (ESL) methods, as well as information about working with culturally diverse populations. This section of the paper reviews and describes five methodologies common to ESL classrooms, all of which have relevance for teachers working with language minority students with severe disabilities.

Total Physical Response (TPR)

The approach known as Total Physical Response (TPR) has been used successfully with students who are learning a second language (Asher, 1988). When TPR is used in a classroom where students are learning English, the teacher gives students commands in English. The teacher gestures, models, and says the commands to the students, and students respond by imitating the teacher. The children intently watch the teacher's every move and listen to the accompanying command. For example, the teacher may say, "Open the window," at the same time performing the action. The students imitate the teacher. Slowly they begin to comprehend the various words, actions, and commands that the teacher is modeling and having them repeat. Students are not required to speak initially, but as speech emerges, students begin to give commands themselves. The theory behind this approach is that a second language is best learned in the same manner and sequence as children learn their first language.

Asher (1988) notes that students actively listening to commands given in English will need ten hours or more to begin processing the second language (L2). More time may go by before the student begins speaking the L2. Asher (1988) also notes that some students listen more slowly; these students will take even longer to begin comprehending and speaking the second language. This longer time period may be the case for language minority students with severe disabilities. Durán and Shunk (1992), working directly with such students, note that they may indeed take longer than ten hours to begin comprehending the second language and even longer to begin speaking the L2. Durán and Shunk have observed that some language minority students with severe disabilities take up to six months to begin responding and verbally communicating in the second language. With other students, they note it may even take longer, particularly if students have interfering behaviors, which often prevent language instruction from taking place.

The Natural Approach

Another approach that has been used successfully with students enrolled in ESL classrooms is the Natural Approach (Krashen & Terrell, 1983). In the Natural Approach, use of the second language for meaningful communication is stressed, with the main goal being to develop students' ability to communicate orally and in writing. The teacher typically provides a great deal of input in English; this input is linguistically just slightly above the students' current level of proficiency (Krashen and Terrell call this "comprehensible input").

Classroom activities should have a purpose other than conscious learning and practicing of grammatical points. Topics of these activities should be interesting or meaningful to students, so that student attention is focused on the *content* of what is being said in English, rather than on the English forms themselves. Using the Natural Approach, then, the teacher might have students role play meeting each other for the first time.

Often students go through several stages in acquiring a second language. Students may initially go through a silent period, concentrating on building a knowledge base of L2 words through listening to their teacher's comprehensible input. In the Natural Approach, this silent period is accepted by teachers; students are not pressed to speak until they are ready. When students do begin to speak, they often use one or two words to respond to questions and to communicate ideas. Errors are usually not corrected; rather, it is assumed that students will eventually correct their own errors as they are exposed to more input.

Cooperative Learning

Another approach that comes to us from ESL classrooms is cooperative learning (Kagan, 1985). Typically, in ESL cooperative learning situations, pairs or small groups of students work together to practice drills, gather or pool information, solve a problem, check each other's work, or complete a project. Cooperative learning provides rich communication opportunities for limited English proficient students. In ESL classrooms, *how* students are paired is important: A student who is more proficient in English is generally teamed up with a student who has less proficiency. Pairing students with different native languages may also be important, because then the students will need to use English to communicate with each other. However, in many ESL classrooms, use of the L1 is permitted in cooperative grouping as a means of facilitating student discussion and learning of concepts; English is then used when the groups report their activities and findings to the whole class.

A teacher working with students who have severe disabilities can make use of the cooperative learning approach, modifying it to the needs and capabilities of the students. How to make such modifications to the cooperative learning approach is discussed in the next section of this paper.

Preview/Review Method

Another method from English as a second language instruction which is useful in teaching language minority students with severe disabilities is the Preview/Review method (Jacobson, 1987).

In Preview-Review, content areas are previewed in student's native language (L1), then presented in English (L2), and finally reviewed in L1. This method may be especially useful in the upper primary and secondary levels, where content materials (e.g., science or social studies textbooks) may not be readily available in minority languages.

When utilizing the Preview/Review approach, it is important that only a few words, phrases, or sentences be given initially to students in their native language. If the teacher uses more than a few words or sentences in the students' native language, then students wait for their first language and do not make an effort to understand the lesson when it is presented in English.

Making Use of Cultural Information

ESL classrooms are, by nature, filled with students of cultures different from the U.S. culture. Students often experience difficulty in adjusting to the new culture, which can translate into resistance to learning the new language. Asher (1988) and Cummins (1980) note the importance of helping language minority students learn language through the teacher making use of the student's familiarity with his or her family, culture, and any other home items. Making use of cultural information of value to students can create a direct reason for the student to learn the second language.

Use of ESL Methods with Language Minority Students with Severe Disabilities

Presently, few special educators are utilizing English as a second language (ESL) methods in their classrooms. Even fewer teachers who teach language minority students with severe disabilities are making use of these methods. Yet, the few special education teachers who *are* using these ESL methods with language minority students who have severe disabilities are helping their students to learn English more effectively. This section looks at how teachers have used and modified ESL methods to suit the needs and capabilities of their language minority students with severe disabilities. Results of their efforts to use these methodologies are also described.

Total Physical Response

When TPR is used in ESL classrooms, teachers say a command in English and then demonstrate or gesture how to follow that command. The same technique can be used when working with language minority students with severe disabilities. However, it is important to realize that some students with severe disabilities may have physical difficulty in following the command (e.g., a command such as "Put your hand on the desk" may be difficult for a student with a physical disability to follow). Other students may simply show resistance to participating. Therefore, teachers utilizing the Total Physical Response approach with students with severe disabilities may need to physically guide or otherwise assist the students in performing the action associated with the command.

There are many examples of students successfully learning through TPR. The author has observed language minority students with severe disabilities in classrooms where they are actively learning using the Total Physical Response approach. In one case in particular, a Mexican national student with severe retardation has been learning English through TPR. A description of her experience follows, for it illustrates how TPR can be effective when working with students who have severe disabilities.

Juana is from Mexico and has recently arrived in northern California with her family, which has come to pick fruit in the Napa Valley. Juana is 14 years old. The language spoken at home is Spanish. Juana knows a few words and phrases in Spanish and is somewhat verbal in Spanish. Receptively, Juana can understand some commands given to her in Spanish. No formal tests have been given to Juana as of yet, but she was tested in Mexico where her I.Q. measured 20. She was given this test in Spanish.

For the first few days of school, Juana was scared and did not want to come to class. However, her parents want Juana to learn English, because they would like to remain in the United States and feel all their children will profit from English instruction.

By using the Total Physical Response approach, her teacher has made some initial progress. He started by teaching Juana functional commands relating to the classroom, such as "stand up," "sit down," etc. Within a month Juana learned six commands. As the weeks went by, she felt happier about coming to school, because she was understanding more and more of the English words and commands she heard.

Juana's special education teacher continues to use TPR with Juana. He has also made some augmented devices such as computer disks in Spanish and English, which he lets Juana listen to after lunch or whenever she finishes her work and has some additional time to do something different. Juana loves working on the computer, because she loves touching the keyboard. She also enjoys the fact that the computer utilizes her first language.

Other evidence of TPR's effectiveness with language minority students with severe disabilities can be found in the results of several recent studies. For example, Durán's (1992) study concentrated upon several language minority students with severe disabilities who were unable to speak or receptively receive information in English. Teachers in the study used a variety of methods adapted from ESL classrooms. When teachers used Total Physical Response with these students, the students started to say more words in English. Even those students who were not verbal started to respond receptively when English commands were given by the teachers and paired with Total Physical Response gestures. By the end of six months, the minority students involved in the study continued to learn vocabulary in English. Teachers involved in the study were amazed to discover how effective the ESL methods were and reported that they would continue using the methods, including the TPR approach, with other minority children in their special education classes.

Durán and Shunk (1992) report similar beneficial results from using TPR. These researchers worked directly with a seventeen-year old Down Syndrome Vietnamese student whose first and only language was Vietnamese. Using TPR, Durán and Shunk were able to teach this student approximately fifty words and commands in five months time. In addition to using the TPR approach, Durán and Shunk also read several books about Vietnam in order to learn about the student's culture. They report that learning about their student's culture was extremely helpful in adding items from the student's culture to the various language lessons. Doing this, they note, greatly motivated the Vietnamese student to learn new words in English.

The Natural Approach

The Natural Approach (particularly when combined with the Total Physical Response approach) has also proven effective in teaching language minority students with severe disabilities. Take, for example, the experiences of a teacher who works in northern California with students who have severe disabilities. This teacher has two high school students from Asian backgrounds in her classroom. Both students have severe autism. They know only a few words in English but are fluent receptively and expressively in Chinese.

Using the Natural Approach and making use of cultural information of value to these two Asian students with autism, the teacher has the students preparing foods that are typical in their families. Since the students are preparing foods they know and like, they have learned to verbally name each of the items needed to prepare the family dishes. The teacher asks each student, "What is this?" and she points to each food item on the table. The families of these youths are pleased that foods their children are familiar with are being used to help their sons/daughters learn how to answer questions concerning food.

In the first study of its nature, Durán is presently conducting a longitudinal study to determine if some English as a second language methods are more effective than others in teaching language to Latino students who have severe disabilities. Preliminary findings are indicating that the Natural Approach and Total Physical Response are helping the students learn their second language more effectively. Findings of this study will be published in 1994.

Cooperative Learning

Cooperative learning, as it is used in ESL classrooms, may require some small modifications before it can be used effectively with language minority students with severe disabilities. Rather than pair or group students based upon their English proficiency and cultural background, teachers may need to consider the level at which students function, given their disabilities. For example, a higher-functioning student (who could be a person from a regular education class or a higher-functioning student from the same class) might be placed near a lower-functioning student, so that the higher-functioning student can help the lower-ability student understand the lesson. The higher-functioning student then acts as a tutor for the lower-functioning student. The higher-functioning student usually has more vocabulary and uses more complete sentences. Hearing this more fluent English is helpful to the lower-functioning student, who can begin to understand and, eventually, to speak more words in English. At the same time, the higher-functioning student gets many opportunities to practice his or her English, as well as to consolidate his or her understanding of the classroom lessons by sharing knowledge and insight with his or her partner.

It is important for the teacher to know the students and their ability levels before pairing or grouping students together. The author has seen this method work effectively when teachers were aware of each of their student's ability level in class. Furthermore, the author has seen cooperative learning work, because the students enjoyed assisting each other in the classroom and in the community.

Preview/Review Method

In this method, the teacher begins the lesson by giving students a few words of instruction in their first language or L1. These few words or sentences in L1 allow students to understand what the topic of the lesson will be. "Previewing" the lesson in this way allows students to use their prior knowledge to understand the lesson, which is then presented in English. When this approach is used correctly, it becomes effective for teaching language minority students who have severe disabilities.

For example, Durán (1992) compared how quickly two groups of Latino students with severe disabilities performed a vocational task. One group received a few words in Spanish at the start of the lesson ("Previewing"); the remaining explanation was given to these students in English. The second group received instruction in English only. Results showed that the group who received the previewing words in Spanish performed their task of collating papers more quickly than did the group receiving English instruction only.

Parental Involvement: Another Important Consideration

In addition to making use of instructional practices commonly used in ESL classrooms, teachers working with language minority students with severe disabilities will find it extremely useful to involve parents in their children's education. Parents and the family must be given information on the instructional approaches being used in the classroom. Further, parents must be respected as team members in their child's educational program.

Giving information to parents about the instructional approaches being used in the classroom allows parents to understand each of the methods, which in turn allows them to further their child's learning by using the same techniques at home. Students with severe disabilities often are not able to learn information in one environment and transfer that learning to another environment. Thus, parents must be given instruction in their home or the classroom on a monthly basis, so that they can begin understanding what they need to do to help their children learn concepts faster. By visiting minority parents' homes, the teacher and other careproviders can also learn about each child's culture and family needs. This information can then be used by the teacher in designing lessons that incorporate cultural knowledge of value to each student.

Cooperating and collaborating with parents begins to build a trust between the parents and school professionals. Often, minority parents must develop that trust before they can allow teachers of other cultures and languages to help them with their children and youth. As the minority parents develop trust in the teacher and other careproviders, they will begin to share information that they feel is important in teaching their sons or daughters. This team member approach will also assist teachers, because the parents can become advocates of the methods that the teacher is trying to use with their son or daughter in school or in the community.

The author has effectively mobilized more than two hundred minority parents in the Southwest, so that they could learn communication, management, and other techniques useful in teaching language minority students with severe disabilities. Parents attended workshops and training sessions on Saturdays. Parents often brought their children to the sessions, so that they could be shown directly how to work with and teach their children. All the workshops were conducted in Spanish, with teacher candidates at the university assisting the author in the instruction. As more and more parents were assisted, a long waiting list of parents who wanted to participate in the workshops developed.

Latino parents are also receiving direct intervention in San Mateo, California. Here, the Title VII educators at the County Office of Education bring in professionals once a month to help teach and train the parents. Parents are given child care services while they are participating in the training. The author has participated in training the Latino parents in San Mateo. When the parents were asked why they enjoyed coming once a month, they noted that: (a) people at the workshops spoke their language; (b) the parents felt that they were learning how to work with their son or daughter, because someone always demonstrated the appropriate techniques; and (c) they felt pleased to have the opportunity to share their sadnesses and joys with other parents.

Recommendations for Future Directions

Today, more than 30% of the population under age 18 are minorities ("Minorities," 1990). By the year 2000, the number of minority students attending our schools will have dramatically increased (Henry, 1990). Already we are experiencing a major influx of immigrants whose first language is not English. There will be a great need for teachers specifically trained to meet the needs of language minority students in our schools. Therefore, in order for language minority students with severe disabilities to receive the most appropriate education, the following recommendations are offered:

1. It is recommended that institutions of higher education commit to programs for helping to better train teachers to understand the best practices for teaching language minority students.
2. It is recommended that special education, bilingual education, and/or ESL departments create programs that bring together competencies of special education and English as a second language methods, in order to develop credential programs in bilingual/language development and special education.
3. It is recommended that some of the dual credentialing in bilingual/language development and special education bring together coursework for teacher candidates in: language acquisition theory, English as a second language methodology, bilingual education methods and curriculum, special education methods for teaching students with severe disabilities, and courses in assessment of special education students. Teacher candidates would additionally have to student teach in regular education (with emphasis upon English as a second language classrooms) and special education classrooms where students with severe disabilities would be enrolled.
4. It is recommended that federal monies be made available to institutions of higher education through their teacher preparation departments, in order to find better and more creative means of credentialing teacher candidates who will be teaching language minority students.

5. It is recommended that federal monies be set aside for minority researchers to continue to investigate best practices in teaching language minority students.

6. It is recommended that national conferences (such as those held by The Association for Persons with Severe Disabilities, the Council for Exceptional Children, and the American Speech-Language-Hearing Association) call for papers that also include best practices and other research useful in teaching language minority students with severe disabilities.

7. It is recommended that more minority faculty-researchers and practitioners who work directly with language minority students or who are conducting research with minority students be encouraged to present at national conferences. Since there are so few minority faculty found at institutions of higher education, little effort is made to seek out these professionals. Yet these professionals usually have a great deal of information to share with the audience and other service providers.

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Communication Intervention for Persons with Severe and Profound Disabilities: An Overview

by
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This paper examines important issues in establishing an initial social / communicative repertoire among individuals who have severe to profound disabilities.[1] *The discussion is intended for interventionists working primarily with individuals who have not yet displayed an overt interest in or who are not yet able to discriminate among the environmental stimuli that surround them. Strategies are also presented for working with individuals who display an interest in their environment but who use highly idiosyncractic means to express themselves. A thorough review of communicative behavior and communication interventions is presented.*

INTRODUCTION

Thompson and Guess (1989) have described learners with the most profound disabilities as having characteristics that include limited awareness, limited response repertoires, no communication systems, and, often, medical complications. They go on to observe that teachers view learners with the most profound disabilities as a distinct group within a population that is generally viewed as having severe and multiple disabilities.

Unlike most learners who readily demonstrate a propensity to voluntarily act on aspects of their environment or react to the actions taken by others, persons with profound disabilities often do neither. Consequently, the task for the communication interventionist often must begin with identifying those stimuli that are apt to result in a reaction from the learner. In those reactions lie the topographies that the interventionist can attempt to prompt and shape into actions that may serve the learner communicatively.

The focus of this paper is to examine the establishment of an initial social/communicative repertoire among individuals who have severe to profound disabilities. Our discussion will focus on individuals who have not yet displayed an overt interest in or who are not yet able to discriminate among the environmental stimuli that surround them. Additionally, we will focus on individuals who have displayed an interest but are using highly idiosyncratic strategies to express themselves.

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According to the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities (1992), current best practices in the establishment and enhancement of communication among individuals with very severe disabilities should be based on six major tenets. These are that:

1. communication is social behavior;
2. communication acts can be produced in a variety of modes;
3. appropriate communication functions enable productive participation in interactions with others;
4. effective intervention must modify the physical and social elements of environments to ensure that the environments invite, accept, and respond to communicative acts;
5. effective communication intervention must fully utilize naturally occurring interactive contexts; and
6. service delivery must involve family members working collaboratively with a cadre of professionals and paraprofessionals.

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The discussion of communication intervention in this paper will be framed to address these important tenets.

COMMUNICATION AS SOCIAL BEHAVIOR

The National Joint Committee for the Communicative Needs of Persons with Severe Disabilities (1992) has defined communication as:

> ...any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge or affective states. Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms and may occur through spoken or other modes. (p. 2)

This definition provides the starting place for our examination of communicative acts and the social participation of individuals with severe disabilities. (See Appendix A in this volume for the complete text of the National Joint Committee's guidelines.)

Describing the Range of Social Participation Among Persons with Severe Disabilities

Individuals with the most severe communicative deficits are distributed across a continuum of great breadth with respect to their propensity to socially interact. On one extreme are those individuals with severe disabilities who are very active socially. These individuals may have substantial behavioral repertoires that are aimed at obtaining/maintaining attention, obtaining desired activities, and escaping/avoiding undesired activities. For some of these individuals, the form of this social behavior will consist of challenging behaviors that may include, but not be limited to, tantrums, aggression, property destruction, and self-injury (Durand, this volume; Reichle & Wacker, in press). Other individuals will have a significant repertoire of social skills that may include the emission of an array of gestures. These gestural repertoires may range from natural, readily understood gestures (e.g., waving, pointing, or offering a cup) to more idiosyncratic forms that can only be understood by individuals who are intimately familiar with the learner and who have learned to decipher that person's consistently-used, gestural repertoire. Still other individuals appear to have very little interest in engaging in social interactions. Reichle, York, and Eynon (1989) have referred to many of these individuals as appearing to be passive participants in the milieu of social environments. Plausible explanations for why these individuals have become passive participants include: (a) they have interaction strategies, but they simply choose not to use them; (b) they have learned to refrain from social contact as a result of learned helplessness (Seligman, 1975); (c) social contact represents an aversive event, and this results in the active avoidance of or escape from social interactions; (d) they have limitations in their ability to discriminate and react to social stimuli; or (e) they have limitations in their ability to remain sufficiently alert to the social environment (Guess, Siegel-Causey, et al., 1990).

Operationalizing the Purpose and Flow of Early Social Exchanges

Interestingly, acquiring a propensity to socially interact does not appear to require significant developmental prerequisites. Infants appear to attend to adults very shortly after birth. For example, the caregiver's voice has been demonstrated to serve as a discriminative stimulus for a five week old infant's smiles (Wolff, 1963). Some regularly occurring events (e.g., feedings) provide an opportunity for a learner to begin associating the presence of familiar individuals with the delivery of social attention, as well as both desired and undesired objects/events. Still other instances of early social interactions seem less episodic and are geared to establishing and maintaining a proto-conversation between learner and teacher (or caregiver). In these instances, the learner may or may not be interacting intentionally. Table 1 displays a variety of child behaviors that are interpreted by adult listeners as being socially responsive. These initial social overtures (even though not yet intentional) have spawned a plethora of investigatory efforts to describe early, expressed social intent and its influence on the environment.

Table 1

Child Behaviors that may be Interpreted as Socially Responsive by Their Listeners

Learner Behavior	Caregiver's Perception of the Child's Behavior	Actual Occurrence
As mother enters the room, her three week old infant looks at her and smiles.	Mother interprets the infant's smiling as an expression of pleasure as a result of his mother's arrival. Based on this, the mother goes to the child and begins to verbally interact with him.	In actuality, infants at this age do not yet use their smiling response discriminitively (Wolff, 1963). For example, it is likely that the infant would have responded in the same manner if a stranger had entered the room.
Upon dropping a toy from his highchair, an eight month old infant reaches for the toy and vocalizes.	The infant's father interprets these behaviors as a request and responds by saying, "OK, Daddy will get your toy for you."	It is not until after approximately ten months of age that infants use a combination of vocalizations, gestures, and eye contact to convey requests. Based on this, it is probable that the infant would have emitted the same behaviors had the father not been present (Bates et al., 1975; Bruner, 1975).
When the bottle falls from his mouth, interrupting his meal, a two week old infant begins to cry.	The infant's cry is perceived by his mother as a request for assistance. She responds by saying, "OK, I'll get your bottle for you" and she places the bottle in his mouth.	At two weeks of age, infants respond consistently to an interruption of feeding by crying. Although the mother was present on this occasion, the infant would have emitted the same response had she been absent (Wolff, 1969).
Thirty minutes after finishing a bottle, an infant starts to cry.	Upon hearing the cry, the mother goes to him and checks his diaper. Finding the diaper wet, she perceives the infant's crying behavior as a way of communicating that he is uncomfortable.	Although the mother interpreted the cry as a communicative response, it is probable the diaper was wet long before the crying behavior was emitted (Wolff, 1969).

Describing Intentional Communicative Behavior

The examples presented in the preceding section suggest that parents and caregivers readily interpret very young children's production of discrete voluntary behavior as communicative, even though the actions may not have been emitted intentionally (see Halle, this volume). Most researchers agree that normally developing infants become intentional around eight months of age. Wetherby and Prizant (1990) described a number of criteria that may be useful in determining the point at which a learner is emitting discrete voluntary behavior with communicative intent. Criteria include:

1. alternating eye gaze between a goal and one's listener,
2. persistence in the production of a behavior until a goal has been met,
3. pauses between emissions (waiting for a response),
4. termination of a behavioral emission once a goal has been met, and
5. altering a behavior when it is not at first successful in procuring the goal.

Traditionally, communication interventionists have viewed intentional behavior as a precursor to communicative instruction. Increasingly, however, interventionists are attending less to specific cognitive prerequisites to communication intervention. Rice (1983) stated that "there is a detectable sense of frustration regarding the elusiveness of cognition and its role in language impairment and the remediation process" (p. 347). An increasingly prevailing view is that specific voluntary behaviors emitted by the learner should be consequated systematically by the interventionist with a desired outcome that, over time, may come to be associated with the voluntary behavior produced. For example, loud vocalizing that occurs after a learner has consumed a beverage may be consequated by a refill of beverage. Even though the initial emissions of the vocalizations were not intended for an audience, the learner, across consistently consequated responses, may come to learn that loud vocalizations at mealtime tend to recruit offers of food. It is reasonable to assume that parents, caregivers, and teachers who (a) most accurately interpret the environmental conditions that precipitate motor and vocal emissions and (b) consequate learner emissions immediately may be the most efficient instructors of an initial communicative repertoire.

Currently, there are no available data to suggest that intentionality represents a prerequisite for beginning communication instruction. At the same time, however, it is important that the interventionist place himself or herself in a position to discern the learner's initial emission of intentional behavior. At this point, increasing emphasis can be placed on shaping communicative productions into forms that will be more user-friendly to the learner's listener.

Unfortunately, selecting initial communicative forms to teach is complicated by the limited repertoire of vocal and motor behavior that the learner brings to the language learning task. Whether the goal of the interventionist's activities is to establish comprehension or production of communicative behavior, it is imperative that he or she identify discrete voluntary behavior emitted by the learner that can be shaped or prompted into socially acceptable communicative forms. These forms may involve gestures, vocalizations, selection of graphic representations, or a combination of responses within these modes.

COMMUNICATION ACTS CAN BE PRODUCED IN A VARIETY OF MODES

Guess, Siegel-Causey, et al. (1990) suggest that, once a learner with severe/profound disabilities emits intentional behavior, expansion of that individual's communicative repertoire is limited by the number of easily emitted, socially acceptable behaviors that can be shaped or prompted. Mirenda and Calculator (this volume) address the range of augmentative and alternative communication systems that can serve individuals with severe disabilities. It is particularly important that, prior to making decisions about establishing new communication forms, the interventionist recognize any existing communication strategies emitted by the learner.

Identifying Learner Responses

Most learners engage in some discrete voluntary behavior. Sometimes, movements associated with state changes become the initial forms that interventionists attempt to establish as responses to certain environmental events. For example, an interesting visual spectacle in the presence of a quiet but alert learner may result in increased body movement. Conversely, a soft sound presented to an alert and active learner may result in a marked decrement in movement. Initially, then, many learners with profound disabilities may display generalized reactive responses to adults' social overtures.

A learner who has a limited repertoire of voluntary responses presents a formidable challenge for locating functional actions that can be used communicatively. Piche and Reichle (1991) have described some characteristics of signaling response which the interventionist may wish to consider. They observe that voluntary responses already produced frequently and that are part of a socially unacceptable repertoire should be avoided. Responses involving the controlled use of an undesired reflex or movement pattern should also be avoided, if possible. Third, if possible, movement that can be prompted should be selected. Finally, it is important to locate a behavior that, when produced, does not readily fatigue the learner.

Once a learner's experience with a particular social routine increases, he or she may begin developing individualized responses that correspond to the particular routine of interest. For example, when a mother slowly produces a noise-making toy from behind her back, a child may quiet. Once the toy is placed in the learner's hand, he may come to learn that it produces the most noise when shaken. If the learner finds this activity to be enjoyable, he may come to anticipate its delivery by engaging in the shaking action just prior to the item's arrival. This more explicit gesture, eventually used as a request, would provide the interventionist with more explicit information about the learner's preference than would a highly general action such as smiling.

Deciding to Alter an Existing Repertoire

Communicative emissions may involve natural gestures that will be quite guessable to their communicative partner. Reichle, Halle, and Johnston (1993) suggest that establishing more sophisticated communicative forms for the sake of making the learner's repertoire "more sophisticated" may not be warranted. However, shaping or replacing communicative emissions may be warranted in some instances. Included among these are instances when: (a) the learner's communicative productions are so idiosyncratic that they require the listener to be familiar with their function in order to be understood; (b) the learner produces communicative behavior that is easily understood but socially unacceptable (e.g., holding one's crotch to inform a communicative partner that one needs to go to the bathroom); or (c) the learner's communicative productions are harmful to the learner or to others (e.g., aggression, self-injury, tantrums, property damage, etc.).

In all of the preceding examples, the interventionist must make decisions about how best to establish a beginning communication system and to what degree it will be integrated with the learner's existing communicative repertoire. For learners with a very limited communicative repertoire, there is a tendency for professionals to avoid having to make a decision about replacing an existing communicative repertoire. We believe that replacing existing communicative forms should be based on criteria that address the social acceptability and efficiency of the communicative forms that the learner produces at the outset of intervention. The disadvantage to this belief is that the longer the interventionist waits to replace an old form of behavior, the more difficult replacement may become. That is, the better maintained and generalized a response, the more difficult it may be to replace. In the following section, we will consider intervention strategies that relate directly to demonstrating the efficiency of a new communicative repertoire to the learner.

Considering the Efficiency of Communicative Forms

Typically, interventionists have presumed that if learners are sufficiently motivated to obtain an outcome, they will engage in communication even though the emission of conventional communicative behavior requires substantial effort. Unfortunately, for some learners, the cost of responding may be too great and may override the reinforcing event or reaction from a partner, which will occur contingent on communicative emission. Even when learners acquire a new communicative form, the inefficiency of this form may result in its failure to be maintained or generalized.

Recently, a number of investigators have become increasingly interested in the efficiency of communicative behavior being established (Horner & Day, 1991; Mace & Roberts, in press; Reichle & Wacker, in press). Mace and Roberts (in press) describe four criteria that address the relative efficiency of competing responses that achieve the same outcome. These include: (a) the rate of reinforcement, (b) the immediacy of reinforcement, (c) the response effort, and (d) the quality of reinforcement. For example, assume that a learner currently requests a soft drink by standing beside the refrigerator and tapping the door. An alternative communicative form might be to touch a symbol consisting of a miniaturized Diet Coke logo that has been affixed to the refrigerator door. Briefly, we will apply criteria described by Mace and Roberts (in press) to this example.

Rate of Reinforcement

Suppose that a female learner received the same reinforcer, Coca-Cola, regardless of whether she tapped the refrigerator or touched the product logo. That is, the learner's interventionist reinforced the new communicative behavior but also continued to supply the same consequences for the emission of the old behavior. In this instance, no advantage would be gained by using the new symbol. On the other hand, the rule could be applied that tapping on the refrigerator would no longer result in obtaining Coca-Colas. By adding this contingency, a clear advantage would result for use of the new logo. In other words, deciding not to reinforce the continued emission of the learner's old behavior makes the advantage of engaging in the new behavior more discriminable.

Immediacy of Reinforcement

When a learner uses more idiosyncratic behaviors to communicate, it is often necessary for the listener to spend a significant amount of time guessing what it was that the learner wanted. For example, when a learner taps a refrigerator, she might want a Coke, cheese, or any one of numerous other objects. Consequently, idiosyncratic requesting behavior may delay the delivery of the desired item. On the other hand, if the learner touches an explicit symbol representing the desired item, delays in obtaining the desired consequence may be minimized.

Response Effort

In our example, the effort required to emit the target response is virtually identical for each of the two options. Of course, as new product logos are added to the array, the discriminative demand on the learner correspondingly increases. Consequently, with learners who have severe disabilities and clear boundaries of the response effort they are willing to exert, it is important to make the acquisition of other new symbols (competing stimuli) as error-free and effortless as possible for the learner.

Quality of Reinforcement

Once the learner begins to touch a logo representing a desired beverage, she may be apt to use it even though there is no refrigerator nearby. This, in turn, may result in some requests that are consequated by her listener providing some alternative beverage in place of the requested Diet Coke. If this occurs often enough, the learner may conclude that tapping the refrigerator obtains a better quality of reinforcer.

Response Efficiency From the Listener's Perspective

Thus far, we have considered the efficiency of communicative forms from the learner's perspective (e.g., rate of reinforcement, immediacy of reinforcement, response effort, quality of reinforcement). However, it is equally important to consider the efficiency of a learner's communicative forms from the *listener's* perspective.

Some communicative forms may be relatively efficient from the perspective of the learner but highly inefficient from the perspective of the listener. Often, those who spend a substantial amount of time with a learner actually "learn" his or her idiosyncratic communication strategies. Although this may work well with these individuals, it may significantly limit the degree to which the learner can communicate independently across a range of community environments. Assuming that the learner's idiosyncratic communicative strategies are socially acceptable, it may be most efficient for the learner to use those strategies with familiar listeners but learn more conventional communicative strategies to use in other environments.

At first glance, the preceding suggestion may seem somewhat complicated. However, many learners with very idiosyncratic communication strategies already use several different behaviors to achieve the same outcome. For example, if a parent tosses a package of dried fruit or pretzels near the learner and they are within her grasp, a probable response would be to pick up the treat and eat it. On the other hand, suppose the learner sees her mother give a package to a peer, but the mother does not offer a package to the learner. This condition may be likely to result in a request for the treat. There is a growing literature that addresses the most efficient intervention strategies to use in establishing this "conditional" use of new communicative repertoires (see Reichle, York, & Sigafoos, 1991).

Usually, one assumes that establishing communicative behavior lessens the probability of learned helplessness (Guess, Benson, & Siegel-Causey, 1985). However, some vocabulary that may need to be emitted in some settings to access events independently may foster helplessness if emitted in other settings. For example, at school a learner may have to request something to drink. At home, however, the learner could simply go to the refrigerator and select a beverage any time he or she was thirsty. In this latter instance, the emission of communicative behavior actually results in the learner being more dependent on others who share his or her environment. It is important that interventionists not only take great care in identifying a communicative repertoire to teach, but also take care to ensure that use of the communicative repertoire they are selecting will result in greater rather than diminished social independence for the learner.

The preceding discussion suggests that establishing a functional and efficient communicative repertoire is very difficult to accomplish if the interventionist designs and implements intervention procedures in the absence of those environments in which the behavior is expected to be utilized, once acquired.

EFFECTIVE COMMUNICATION INTERVENTION MUST FULLY UTILIZE NATURALLY OCCURRING INTERACTIVE CONTEXTS

The bulk of communication intervention programs developed for persons with severe disabilities during the 1970s used a didactic instructional format and focused on establishing vocal mode communication skills. This format often resulted in interventions that used a narrow range of teaching examples that were implemented outside the environments in which the skills being taught were expected to be used. Typically, instruction was implemented by a single interventionist during episodes of massed teaching opportunities. Often, these practices resulted in establishing communicative repertoires that were poorly maintained and not extensively generalized.

As our knowledge of communication intervention has grown, so, too, has our fine tuning of the design of intervention formats. Within the past decade, increasing emphasis has been placed on instructional strategies that provide sufficient teaching examples under the most naturalistic circumstances possible. The challenge currently facing the communication interventionist is to establish discriminative and generalized use of a communicative repertoire without sacrificing the milieu of natural opportunities to teach and stimulate language. In the discussion that follows, we will explore best procedural practices that attempt to address this challenge.

Identifying the Repertoire to be Taught

Describing a Range of Communicative Functions

A number of investigators have developed taxonomies to describe instrumental communicative intents (Cirrin & Rowland, 1985; Dore, 1975; Wetherby & Prizant, 1992). Instrumental intents describe *why* the learner produced a particular utterance, regardless of where it occurred within the flow of an interaction. Five taxonomies are compared in Attachment A, which appears immediately following the references and resources at the end of this article. This comparison illustrates the similarities and differences among current descriptive strategies that are used to describe communicative functions. These functions represent the building blocks used in communicative exchanges that comprise simple conversations.

Distinguishing Between Pragmatic Functions and Social Functions

Given the numerous descriptive taxonomies available to the prospective interventionist, describing the reason for the production of any given utterance would seem to be a relatively straightforward proposition. However, we believe it is easy to misuse pragmatic taxonomies to describe communicative *forms* rather than *functions*. For example, consider a learner who is grudgingly engaging in work. Approximately one minute into the task, the learner signals for "help." Her mother dutifully assists her with the first chore. Several minutes later, the learner is again requesting assistance. After 10 requests, her work has been completed without engaging in any work other than requesting assistance. Most pragmatic taxonomies would describe the learner's behavior as a series of "requests for assistance" or "requests for action," based on the utterance form and the specific context in which it was emitted.

Alternatively, a functional assessment of the situation might suggest that the learner's communicative behavior functioned to avoid or escape engagement in the activity. A request for assistance, in some instances, may serve as a strategy to access a highly preferred item (e.g., obtaining assistance to unwrap a desired piece of candy). On other occasions, requests for assistance may be produced in an attempt to escape from an unpleasant chore. Unless the full range of relevant stimulus conditions is addressed during intervention, the interventionist cannot conclude that the learner will generalize the pragmatic function being taught across the complete range of environmental circumstances in which the pragmatic function can be used. Reichle (1990b) reports instances in which teaching a learner to "request assistance" exclusively in the presence of opportunities to escape or avoid highly nonpreferred activities failed to generalize to the use of "request assistance" vocabulary to access desired objects and events (e.g., candy that the learner needed help unwrapping). Reichle (1990b) also reports an instance in which a learner with severe developmental disabilities was taught a general rejecting gesture ("no"). All of the identified teaching opportunities occurred when the learner was offered a highly *nonpreferred* object or event. Over time, the learner used a rejecting utterance whenever an undesired item was offered. One of this individual's preferred activities was traveling to a coffee shop on Saturday morning to partake of a beverage and sweet rolls. Generalization probes conducted in this setting demonstrated that the reject gesture had generalized to previously untrained and undesired breakfast items. For example, when offered bacon or sausage (highly nonpreferred items), the learner emitted his rejecting response. However, when offered refills of juice (a highly preferred item) for which he had demonstrated satiation, the learner failed to emit his newly-established rejecting utterance. As the intervention process proceeded, it became increasingly clear that, inadvertently, the interventionists had taught the learner to use a rejecting gesture across only a subset of the full range of important functional opportunities for its use. Unless interventionists match the pragmatic function being taught with a full *range* of social functions that the new utterance is expected to serve, it may be very difficult to establish a truly generalized communicative repertoire.

Describing General Conversational Functions

Generally speaking, during a communicative exchange, three things can happen. The interaction can be initiated, maintained, or terminated. In considering functional social/communicative use, it is critical that the interventionist consider establishing instrumental communicative functions such as requesting, rejecting, and commenting. Equally critical, however, is the importance of considering how instrumental communicative functions can be used across conversational functions (i.e., initiate, maintain, and terminate). Table 2 displays examples of interactions between instrumental communicative functions and conversational functions.

Describing early communicative behavior can be particularly difficult in the case of the idiosyncratic emissions of individuals with severe and profound disabilities. Often, with beginning communicators, the interventionist's task starts with determining whether learners already understand that their vocal and gestural emissions can exert control over their environment.

Selecting a Functional Communicative Repertoire

Only recently have interventionists begun to grapple with developing strategies to derive the best and most efficient teaching examples to utilize in the intervention process. Recently, a package of intervention logic referred to as *general case instruction* (Horner, McDonnell, & Bellamy, 1986; Horner, Sprague, & Wilcox, 1982) has received significant discussion as being relevant to the selection and organization of teaching examples.

At the heart of the general case approach is the concept of stimulus control. A general case approach is aimed at helping learners to make appropriate discriminations and respond to stimuli that share common features, and not respond to irrelevant features that may vary across stimuli and settings (Engelmann & Carnine, 1982). Implementing general case instruction requires careful adherence to six basic steps, which include: (a) defining the instructional universe, (b) defining the range of relevant stimuli and response variation within that universe, (c) selecting examples from the instructional universe for use in teaching and probe testing, (d) sequencing teaching examples, (e) teaching the examples, and (f) testing with non-trained probe examples. In order to illustrate each of these steps, Attachment B outlines how each of these would be operationalized in the context of teaching a learner to request a glass of milk by using a graphic symbol representing "milk."

Following the guidelines of general case instruction ensures that generalization is not a post-hoc consideration. Rather, the generalization process is considered during the development of intervention procedures. Although general case instructional procedures have been widely embraced in the special education literature, they have received very limited

Table 2

Interaction Between Communicative Intents and Stages of Communicative Exchanges

		Initiate	Maintain	Terminate
REQUEST	*Context*	A 6-year-old sees a peer on the playground.	A preschool child is watching his mother blow bubbles.	A learner has lost interest in playing with his younger sibling.
	Utterance	He approaches the peer and says, "Wanna play?"	He says, "Do it again."	He says, "Wouldn't you like to watch cartoons now?"

Note: Adapted from Reichle, J., York, J., and Sigafoos, J. (1991). *Implementing augmentative and alternative communication: Strategies for learners with severe disabilities* (p. 163). Baltimore: Paul H. Brookes. Copyright 1991 by Paul H. Brookes Publishing Company, Inc. Adapted with permission. (Available from Paul H. Brookes Publishing Company, P.O. Box 10624, Baltimore, MD 21285-0624. Telephone: 1-800-638-3775.)

attention in the communication literature. Recently, a number of investigators (Halle, personal communication, May, 1992; Reichle, Halle, & Johnston, 1993) have addressed its applicability to beginning communication instruction. They are finding that, rather than being prescriptive in terms of exact instructional techniques that must be used, a general case approach permits the interventionist great discretion in selecting specific intervention procedures.

Teaching Communicative Forms and Functions

Tannock and Girolametto (1992) have discussed the degree to which intervention strategies are learner-oriented (i.e., follow the learner's lead), interaction-promoting, or language-modeling. Learner-oriented components of communication intervention seek to establish episodes of joint involvement around the child's immediate focus of attention. According to Tannock and Girolametto (1992), their success lies in:

> ...increasing the saliency of information in the child's physical and social environment; tuning its complexity to the child's current level of functioning; providing the kind of input that the child can attend to, process, and assimilate ... (p. 55).

Interactive models of intervention have no specific communication topographies as intervention targets. Additionally, no didactic teaching methods are used. Language-modeling techniques are designed to enable the child to recognize relationships among content, form, and use of language.

Although it is difficult to characterize any particular communication intervention program as adhering universally to one of these orientations, the latter (language-modeling) has been used most extensively with persons with severe communicative deficits and has the most extensive empirical database. By far, the most empirical attention has been given to those aspects of communicative intervention procedures focused on modeling language. Among the most ecologically sensitive of these approaches has been milieu language intervention (Hart & Rogers-Warren, 1978).

Milieu Language Instruction: A Language-Modeling Approach

Hart (1985) described three teaching strategies that encompass the milieu approach to language intervention. These strateiges are: mand-model, time delay, and incidental teaching.

Mand-model instruction. During an episode of mand-model instruction, the interventionist places a variety of items of potential interest within range of the learner. As the learner approaches the material, the interventionist initiates the interaction by producing an utterance that requires the child's response. For example, in a requesting episode, the interventionist might say, "What do you want?" In a commenting episode, the interventionist might ask, "What is that?" If the learner fails to produce the desired response, the interventionist may follow the original utterance by producing a model for the child to imitate (e.g., "cookies," if the goal of the intervention is the production of single-word utterances). When the learner responds, he or she is praised socially and given access to the materials. In order to benefit from mand-model instruction, it is important that the learner be able to engage in imitation.

Once a learner participates in a mand-modeling procedure, the interventionist is in a position to exert some control over the frequency of communicative output. Unfortunately, because a high proportion of communicative emissions is preceded by the interventionist's verbalizations, spontaneous use of the learner's burgeoning repertoire may not occur readily.

Time-delay instruction. A time-delay instructional procedure is designed to transfer instructional control from the interventionist's mands and models to other naturally occurring environmental stimuli (Hart, 1985). A component of the time-delay procedure includes an adult in close proximity displaying a reinforcing stimuli. The adult remains quiet for a brief interval (Halle, 1982; Oliver & Halle, 1982), providing the learner with an opportunity to initiate the topic. If the learner does not emit a response, the adult provides a model and again awaits a response. The learner is then provided with the reinforcer, whether or not a response is elicited.

Halle, Marshall, and Spradlin (1979) demonstrated the effectiveness of the time-delay process with children who had mental retardation. The interventionist delayed giving the learners their food trays during breakfast and lunch. As a result, the learners' requests for lunch trays increased and generalized across people and mealtimes. Thus, once learners take advantage of more subtle environmental cues, it may become increasingly likely that they, rather than the interventionist, will begin to initiate the teaching opportunity.

Incidental teaching. This type of teaching requires that the interventionist wait for the learner to choose a topic. The learner is then prompted to elaborate on the chosen topic and is supplied with appropriate models when needed. The incidental teaching procedure differs from the mand-model procedure in that the learner, rather than the interventionist, chooses the topic. For example, if a learner approaches an activity and communicates "want paint," the interventionist responds by requesting language elaborations (e.g., "What color of paint would you like?"). If the learner does not respond, the elaborated response may be prompted by the teacher. For example, the teacher may hold up the blue paint and say, "The color of this paint is ______." If the learner still does not respond, the appropriate response may be modeled for the learner to imitate (i.e., "blue paint"). When the learner provides a correct response, it is confirmed (i.e., "That's right, this is blue paint"), and the child is consequated with the reinforcing stimuli.

Although milieu language instruction offers the distinct advantage of capitalizing on the same interactional strategies that have been documented to occur between parents and their normally developing children, there are some limitations of the model when applied to learners with very severe disabilities. First, as it was originally presented, mand-model instruction is efficient when recipients engage in an imitative repertoire. However, if a learner cannot act on an imitative model, the interventionist must develop an intervention strategy to teach the learner to use the model. Secondly, there is a limited database available that addresses the generalizability and maintenance of communicative skills taught (Kaiser, Yoder, & Keetz, 1992). Thirdly, the bulk of successful applications of milieu intervention has focused on populations that include disadvantaged preschoolers, learners with specific language delay, and learners with autism. Significantly less empirical demonstrations have been conducted with persons who have more severe disabilities (Halle, Marshall, & Spradlin, 1979; Warren, McQuarter, & Rogers-Warren, 1984).

Interactive-Based Intervention Approaches

With the increasing emphasis on conversation and interaction in beginning communicative exchanges, interactive intervention strategies have become increasingly popular among interventionists who do not want to focus on specific forms of communicative behavior to be taught. Although Tannock and Girolametto (1992) have observed that "...the precise mechanisms by which early social interaction facilitates language development are not known..." (p. 53), current research and best practice suggest that particular aspects of the learner's communicative partner's behavior influence the learner's acquisition of communicative skills. Reichle, Halle, and Johnston (1993) summarize these aspects as including:

1. the maintenance of joint attention (i.e., participants in the interaction are attending to the same aspect of the environment);
2. the contingent response to the child's communicative effort (i.e., the partner's response immediately follows and is related to the child's communicative attempt);
3. the use of joint activity routines;
4. the use of models and/or expansions of learner utterances; and
5. the modification of speech to match the complexity of the child's communicative production.

A number of existing communication curricula rely heavily on social interaction as the underpinning of the communication intervention process (e.g., MacDonald, 1989). Consequently, addressing how learners with severe disabilities come to participate productively in social/communicative exchanges warrants discussion.

As mentioned earlier, social exchanges between communicative partners can be initiated, maintained, or terminated. These three broad classes interact with communicative functions that have been described previously in this paper. That is, a request can be used to fulfill each of the three conversational functions, as depicted in Table 2. There is little evidence suggesting that, once a specific communicative function has been acquired (e.g., rejecting, commenting), it generalizes across the conversational boundaries of initiate, maintain, or terminate. Briefly, we will examine the three conversational components as they apply to the earliest phases of communication intervention.

Maintaining communicative interactions. In order to react to and subsequently maintain a social interaction, it is important that the learner be able to attend to referents that are being spoken about by his or her listener. Additionally, it is important that the learner be able to coordinate attention between his or her listener and the referents of the interaction. These competencies require that the learner exhibit a repertoire of orienting responses. Examples of these responses include joint focus, line of regard, and following natural gestural directions.

In the context of a social exchange, *joint focus* refers to both participants directing their attention simultaneously to the same referent. At the most rudimentary level, visual and/or auditory localization responses greatly facilitate establishing joint focus. For example, if the interventionist wishes to call a learner's attention to an object, tapping the item or walking over to the item will generally result in the learner's localization (Kaye, 1976; Scaife & Bruner, 1975).

Line of regard occurs when the learner's listener directs his or her gaze to a particular place; the learner may subsequently look in the same direction of the listener, even though there was no overt cue to do so. For example, while smiling at an infant, the mother looks out the window. Even though nothing may have happened outside, learners older than several months of age will demonstrate a propensity to follow their partner's gaze. Line of regard is viewed as a particularly important advancement in ensuring that learners and their communicative partners establish joint focus on the objects or events that are the focus of communicative exchanges. Typically, learners who engage in line of regard require far less intrusive prompts to visually sample their environment than do learners who do not yet engage in this skill.

Sometimes, a communicative partner alters his or her focus of attention to a cluster of possible referents. Clarifying which referent is the new focus of attention may require pointing to the item or event of interest. For example, while reading a book with a child, parents may point to a particular aspect of the page they may wish their child to notice. This strategy of focusing a child's attention appears to be very effective at relatively early ages in normal developing children (Murphy & Messer, 1977). For individuals with the most severe communicative deficits, the pointing gesture represents an important strategy that the interventionist can use to focus a learner's attention without interrupting the flow of an interaction.

The behaviors that we have described thus far are aimed at teaching the learner to follow, anticipate, and participate in the flow of social routines. McLean and Snyder-McLean (1988) have outlined the characteristics of maximally efficient social routines that focus on joint action. They suggest that a routine must have some unifying theme or purpose that requires both joint focus between the learner and the listener and an exchange of turns. To maximize the probability that each team member acquires a role in the game, actions should be based on a predictable sequence, with pauses that promote turn-taking. Routines must be ones that can be implemented frequently across time.

Once learners are particularly active in joint activity routines, steps can be taken to identify those components of the listener's behavior which ensure the learner's participation. Table 3 contains an example of how an interventionist might isolate exactly which adult motor and vocal gestures result in a child recognizing that he or she has an opportunity to play a game of peek-a-boo. In this example, it is clear that the interventionist's production of the spoken utterance "peek-a-boo" did not exert any control over the learner's behavior.

Often, learners with more severe disabilities have difficulty learning to understand spoken words. Joint activity routines may provide an opportunity for the interventionist to determine the degree to which the learner attends to the spoken utterances of his or her partner. The interventionist might select a routine that involves the interventionist producing both motor and vocal behavior. During the initial phases of implementing this routine, motor and vocal behavior will be paired. After extensive pairing, the interventionist may choose to deliver the spoken cue just prior to the delivery of the gestural cue. This would afford the learner an opportunity to engage in a discriminative voluntary behavior that previously was under the control of only a gestural cue. Across successful teaching opportunities, the interval between the delivery of the verbal cue and the gestural cue would be increased.

If the preceding strategy were successful, it may still be unclear whether the learner actually understands the spoken word. Instead, the learner may be attending to prosodic aspects (i.e., pitch, loudness, duration) of the communicative partner's utterance. For example, Reichle, Rettie, and Siegel (1986) reported that some preschoolers with Down syndrome were more apt to attend to aspects of prosody (pitch, loudness, duration) than to the specific segmental forms of utterances. The strategy just described could be used to transfer instructional control from the pitch, duration, and loudness of another's utterance to the actual word spoken. It is clear that children learn to attend to and utilize clusters of contextual cues that, as a package, serve as a discriminative stimulus for a social response. With learners who have very severe communication deficits, it may be very important to determine whether they contingently act on social stimuli. If they do, efforts can be made to determine whether their partner's vocal behavior is a salient aspect of that discriminative stimulus. Once a learner produces contingent social responses to vocal stimuli, steps can be taken to teach him or her to discriminate between words spoken by a communicative partner.

Initiating a communicative interaction. Table 4 summarizes some circum-

Table 3

Determining Which Components of a "Peek-a-Boo" Routine Exert Stimulus Control Over a Learner's Response

Natural Occurrence	Trial 1	Trial 2
Partner Behavior: - approach child in typical setting	*Partner Behavior:* - approach child in typical setting	*Partner Behavior:* - approach child in typical setting
- smile	- smile	- smile
- raise hands to eyes and then quickly pull hands away from eyes		- raise hands to eyes and then quickly pull hands away from eyes
- say "peek-a-boo"	- say "peek-a-boo"	
Child Behavior: - Put hands over own eyes	*Child Behavior:* - no response	*Child Behavior:* - put hands over own eyes

Table 4

Circumstances That Occasion Communicative Initiations

Circumstance	Example
Joining activities that are already in progress	Tom Sawyer instills an interest among his peers in painting a fence.
Beginning well-established routines	Upon receiving several cookies, a learner (taught that you can't eat your snack unless all the children in the group have some) turns to a peer who doesn't have any, offers her a cookie, and says, "Here."
Calling attention to novel events	At snacktime, when a child spills his milk, a learner obtains the teacher's attention to point out what has happened.
Protesting the undesirable actions of another	A waiter, assuming that a customer has finished her meal, attempts to remove the plate that still contains a small amount of food. When this happens, the customer says, "I'm not done."

Note: From Reichle, J., York, J., and Sigafoos, J. (1991). *Implementing augmentative and alternative communication: Strategies for learners with severe disabilities* (p. 147). Baltimore: Paul H. Brookes. Copyright 1991 by Paul H. Brookes Publishing Company, Inc. Reprinted with permission. (Available from Paul H. Brookes Publishing Company, P.O. Box 10624, Baltimore, MD 21285-0624. Telephone: 1-800-638-3775.)

stances that appear to occasion communicative initiations. Rarely has initiating been the focus of early intervention efforts with persons having severe developmental disabilities. Usually, initiation is addressed once the learner has acquired a new vocabulary but fails to use it in the absence of overt prompts delivered by an interventionist or communicative partner (Carr & Kologinsky, 1983; Charlop, Schreibman, & Thibodeau, 1985; Gobbi, Cipani, Hudson, & LaPenta-Neudeck, 1986).

Within recent years, variables that may influence the likelihood of a learner producing a communicative initiation have been identified. For example, Carr and Kologinsky (1983) demonstrated that, for some learners to initiate an object request, the item had to be visible. They implemented procedures to ensure predictable conditions when the objects would be available but not visible. Their intervention resulted in an increase in the learner's rate and variety of initiated requests. Other investigators -- including Charlop, Schreibman, and Thibodeau (1985); Gobbi, Cipani, Hudson, and LaPenta-Neudeck (1986); and Halle, Baer, and Spradlin (1981) -- have reported the successful use of procedures that incorporated the use of time-delay prompt fading to establish communicative initiations.

Relatively limited attention has been given to efficient strategies to establish communicative initiations during the earliest phases of the intervention process. This is a particularly important need, given the overwhelming consensus that persons with severe disabilities seem to more readily fill the role of responder than initiator in social exchanges.

Terminating communicative interactions. Table 5 displays a range of motivations for terminating an interaction. There exists a propensity in the literature to limit conversational terminating strategies to teaching examples in which the learner is highly motivated to escape the presentation of an undesired item or to escape an interaction that has become uninteresting. Unfortunately, these instances represent a narrowed sampling of the potential instances in which a conversational terminating function could be used. Recent research (e.g., Reichle, 1990a) suggests that learners who are taught to terminate an interaction when presented with highly nonpreferred items or events fail to generalize the use of their communicative strategy in the presence of items that are preferred but for which the learners have entered a state of satiation. Typically, strategies used to terminate interactions focus on identifying the most nonpreferred situations as the intervention stimuli. However, many opportunities to emit communicative rejects may involve events that are not particularly aversive to the learner. We believe that, with learners who exhibit the most severe disabilities, interventionists must carefully select a broad set of teaching examples that exemplify the full range of conditions under which a particular conversational function is to be used.

Table 5

Circumstances That May Occasion Termination of Communicative Interactions

Circumstance	Example
Ending undesired interactions	A learner becomes bored participating in a game of cards and says, "Let's stop."
Concluding desirable interactions in order to accommodate a schedule	When the bell rings in the school cafeteria, a learner may have to terminate her lunchtime interaction with a peer in order to avoid being late to her next class.
Finishing pleasant interactions to take advantage of a more attractive alternative	A 7-year-old child may be content to play with a 3-year-old child, provided no other playmates are available. However, the appearance of another 7-year-old may result in the interaction with the 3-year-old being terminated.
Discontinuing pleasant interactions due to environmental disruptions	A learner who sees his little brother fall off his bike may need to terminate a play activity in order to render assistance.

Note: From Reichle, J., York, J., and Sigafoos, J. (1991). *Implementing augmentative and alternative communication: Strategies for learners with severe disabilities* (p. 150). Baltimore: Paul H. Brookes. Copyright 1991 by Paul H. Brookes Publishing Company, Inc. Reprinted with permission. (Available from Paul H. Brookes Publishing Company, P.O. Box 10624, Baltimore, MD 21285-0624. Telephone: 1-800-638-3775.)

MODIFYING ELEMENTS OF ENVIRONMENTS TO ENSURE COMMUNICATIVE ATTEMPTS

Although the goal of communication intervention is for the learner to acquire the skills required to take advantage of natural communicative environments, it may be difficult for learners with severe and profound disabilities to take advantage of communicative opportunities without some modification or rearrangement of the schedule of certain events. For learners who are served in regular educational settings, some of the modifications required may involve extensive efforts to provide training, technical assistance, and program ownership to regular educators.

Influence of the Learner's State

It is clear that learners vary in their attentiveness to environmental stimuli. Historically, the term *behavioral state* has been used to refer to the various behavioral and physiological conditions through which infants continuously pass (Wolff, 1959). Consider, for example, how behavior state may affect an infant's response to the presentation of a bottle filled with milk. If an infant is crying and agitated, he may not immediately attend to the presentation of the bottle as a stimulus and, therefore, not respond accordingly (reach for the bottle and begin sucking). However, if an infant is awake and relatively quiet, he is likely to immediately attend to the bottle and initiate the appropriate response. Because the behavior state of being awake, quiet, and calm with minimal gross movements interferes the *least* with the ability to process various stimuli, it is posited that it is the optimal state for learning (Prechtl, 1974). Some general conclusions regarding behavior state that can be drawn from numerous investigations are presented in Table 6.

Behavior state in infants has been examined primarily among normally developing infants (Prechtl, 1974; Wolff, 1959, 1966). Colombo and Horowitz (1987) raised the intriguing question of whether the conclusions drawn from the infant literature on behavior state conditions are applicable to older persons with severe to profound disabilities who have developmental ages similar to that of infants. Simeonsson, Huntington, and Parse (1980) noted that determining the degree to which behavior states in individuals with profound mental retardation are predictable and regular may provide important information for the interventionist.

To date, there is limited empirical information on the behavior state characteristics of individuals with profound disabilities (Guess, Mulligan-Ault, et al., 1988; Guess, Siegel-Causey, et al., 1990; Guess, Roberts, et al., 1991). Guess, Mulligan-Ault, et al. (1988) found that, among 21 students with severe to profound handicaps, the percentage of time spent in an awake-inactive-alert state (state more conducive to learning) ranged from 23.88 to 71.85, with a mean of 46%. Results from Guess, Siegel-Causey, et al. (1990) and Guess, Roberts, et al. (1991) suggest that: (a) sometimes it is possible to predict that one particular behavior

Table 6

General Conclusions Regarding Behavior State in Infants

General Conclusions	Reference
There is a succession of behavior patterns (states) that is similar in all normally developing infants.	Wolff (1959) Wolff (1966)
Environmental variables (temperature, noise) can effect the duration and the stability of state cycles.	Wolff (1966)
Infants with unstable state patterns in the first weeks of life appear to be at risk for later, rather severe medical problems.	Tynan (1986) Thoman, Denenberg, Sievel, Zeidner, and Becker (1981)
Children recovering from brain injury follow a general pattern of recovery similar in many ways to the behavioral state cycles of infants.	Thompson (1984) Bagnato and Neisworth (1986)
Premature infants, infants with Down syndrome, and infants of mothers who are alcohol-addicted have shown behavioral state patterns that are different from those of normally developing infants.	Prechtl (1974)
Aberrations in state cycles are viewed as symptomatic of neurological disorganization that might result in reduced opportunities to learn, as well as diminished control over stimuli.	Horowitz (1980) Rainforth (1982)

state would follow another; (b) there appear to be no temporal cycle patterns for any of the subjects regarding any of the behavior state conditions; (c) there is a tendency to change from one behavior state to another in a relatively short period of time (e.g., 21-32 seconds); and (d) there appear to be strong associations between several behavior state conditions and critical environmental variable combinations (e.g., deep sleep was associated with variable combinations that included no interaction with the student and a prone or sidelying position).

These findings would suggest that it may be particularly important to identify setting variables that may be associated with a critical "window" of intervention opportunity with learners who are in an alert state for limited periods of time. Currently, there is a need to conduct empirical investigations to determine the effect that state conditions have on the individuals who interact with students with profound mental retardation and to identify the environmental variables that might alter the state conditions of these individuals.

COLLABORATIVE SERVICE DELIVERY

Ensuring That Professionals Clearly Understand Their Roles and Are Adequately Trained

Best practice in communication intervention suggests that instruction should occur in situations in which the behavior is eventually expected to be produced. With persons who have very severe disabilities, we know that a relatively large number of functional teaching opportunities may be required to establish new communicative behavior. Logistically speaking, communication interventionists must include parents, teachers, psychologists, teaching assistants, physical/occupational therapists, and a host of other professionals who regularly come in contact with the learner. Consequently, a tremendous level of collaboration across members of a learner's educational team is required if qualitatively adequate instruction is to occur.

In order to serve students in increasingly inclusive settings, professionals have begun to find it advantageous to reorganize service delivery to maximize the use of a collaborative model of service delivery emphasizing integrated therapy practices (Rainforth, York, & Macdonald, 1992). This emphasis on transdisciplinary collaboration in serving children and youth in inclusive educational settings has presented tremendous challenges to higher education to alter its traditional discipline-specific preservice training.

Defining Collaborative Teams

Rainforth, York, and Macdonald (1992) have defined a collaborative team as a group of members who labor together, with each team member contributing his or her knowledge and skills and having equal status as a member of the team. One hallmark of collaborative teams is a transdisciplinary approach to service delivery in which members of transdisciplinary teams:

1. share general discipline-specific information,
2. provide in-depth content background for fellow team members, and
3. prepare their fellow team members to share in the implementation of what have traditionally been discipline-specific instructional objectives.

As a result of these practices, collaborative teams embrace the active utilization of an integrated therapy model (Albano, Cox, York, & York, 1981; Giangreco, York, & York, 1989), in which the team as a whole identifies relative environmental content in which to use a learner's emerging skills and focuses on strategies to influence therapy objectives in regular curricular areas. Implementing collaborative teams and a corresponding integrated therapy model requires care if the outcome is to be qualitatively adequate (see Utley, this volume).

Advantages of a Collaborative Model of Service Delivery

Rainforth, York, and Macdonald (1992) describe a number of benefits of a collaborative transdisciplinary service delivery model. These benefits include: (a) increased instructional time for students with severe disabilities (Albano, 1983; McCormick, Cooper, & Goldman, 1979); (b) improved skill acquisition (Campbell, McInerney, & Cooper, 1984; Giangreco, 1986); (c) decreased passive caregiving in regular educational environments; and (d) reduced conflicts among team members (York & Rainforth, 1987).

Within the past several years, a number of professional organizations (e.g., the Division of Early Childhood, the American Occupational Therapy Association, the Association for Persons With Severe Handicaps, the American Physical Therapy Association, and the International Society of Augmentative and Alternative Communication) have endorsed policies promoting collaborative teaming and an integrated therapy model of service delivery. Each of these organizations has cited learning characteristics of students with severe disabilities, the benefits of collaboration, and existing legal mandates and precedents as a strong foundation for adopting less discipline-specific service delivery.

Training for Collaboration

Establishing a successful inclusive education for all students with disabilities will require overcoming two distinctly different, yet highly interrelated challenges. On one hand, existing discipline-specific preservice training does not allow sufficient modeling of a transdisciplinary approach to service delivery, which clearly represents best practice. Correspondingly, preservice trainers do not collaborate sufficiently with service providers in applied settings to develop the collaboration required to establish a continuum that bridges pre-service and inservice activities.

From a process perspective, preservice providers appear to be failing to carefully analyze the skills that will be needed in the environments in which professionals perform, nor are they addressing these skills via competencies in preservice training programs. We believe that higher education preservice training must also adopt a strategy in which the training of professionals becomes a collaborative effort with the public school community and a transdisciplinary effort with academic units within universities. In order to achieve this objective, it is important that both public schools and university preservice programs collaborate in a manner that is mutually beneficial. We believe that one reasonable approach to a mutually beneficial relationship is the increasing involvement of public schools in preservice instruction and commensurate, increasing involvement of university preservice programs in inservice activities of the public schools.

The federal mandates to serve children in the least restrictive environment, regardless of age or handicapping conditions, have created a critical need to develop preservice training activities that focus on *transdisciplinary* intervention for children, particularly infants with disabilities and their families. Courtnage and Smith-Davis (1987) reported that, of the 360 higher education institutions that participated in their investigation, 48% offered absolutely no training in team collaboration. Rainforth (1985) conducted a nationwide survey of 53 university programs in order to evaluate the degree of interdepartmental coordination in the preservice preparation of students for work with persons having severe disabilities. She reported only 3 instances of any transdisciplinary pre-service activities. Results of this survey are particularly alarming when one considers that, as these students complete their professional training, they will be expected to work collaboratively with other professionals in public schools. Rainforth's (1985) study suggests that there are few instances in which higher education has met the challenge of delivering content information in a manner that also teaches students the collaborative skills that will be necessary in applied school settings. Among the most frequently cited stumbling blocks to the implementation of a collaborative model of personnel preparation are: (a) confusions regarding responsibilities, (b) absence of administrative support and structure, and (c) turfism regarding the ownership of courses within departments. The lack of preservice collaboration inevitably leads to a lack of collaboration among professionals serving children in public schools (Campbell, 1987). Baumgart and Ferguson (1991) conclude that the collaborative process is "...judged as valid and beneficial by parents and professionals (but) is not extensively practiced in either the service provider or the preservice arena..." (pg. 319).

Baumgart and Ferguson (1991) have emphasized the importance of refocusing university preservice instruction to place greater emphasis on team collaboration and the use of on-site team problem-solving. In placing increasingly greater emphasis on applied experiences, it will be increasingly necessary to ensure that practica are not simply "practicing labs" but, rather, collaborative instructional settings in which the practicum student is given sufficient support to approximate a more error-free (versus trial and error) learning environment.

Consequently, preservice students will require far greater support than they currently receive in most preservice training programs. In an existing environment of fiscal restraint in higher education, it is clear that collaborative supervision that involves the joint effort of academic faculty and practicing professionals in the field must be provided. If this is to occur, there must be clear advantages for practicing professionals to provide this engagement. There must also be active collaborative interaction between university faculty/staff and service providers to ensure that public school professionals are in a position to provide a strong collaborative arrangement.

Giangreco and Putnam (1992) have described a number of areas requiring careful scrutiny. These areas relate to the processes of collateral teaming, integrated therapy, and resulting inclusionary educational practices. First, even though there is a modest and growing database attesting to the value of an inclusionary model of education, there is a need to quantitatively and qualitatively examine the components of full inclusionary models on the academic, social, and interpersonal relationships that emerge in both children with disabilities and their peers. Secondly, for students who receive inclusive education, there is a continuing need to create and validate innovative approaches that ensure intensive skill instruction that does not sacrifice regular classroom inclusion and the corresponding social experiences. Thirdly, there is a need to scrutinize best practices used in implementing overlapping curricular objectives, using intervention approaches (such as cooperative learning) that, validated in regular education, have only just begun to receive significant attention as viable strategies for persons with significant disabilities. Fourthly, there is a tremendous need to examine collateral effects that the implementation of individualized instructional objectives may have on the learner's overall ability to function in a regular school environment. For example, as Giangreco and Putnam (1992) have pointed out, we have little empirical data addressing how learning a particular skill (e.g., playing with an age-appropriate toy) may be directly related to a different positive learner outcome (e.g., increased operative participation with a nondisabled peer). If we are to make significant headway in inclusive education, collateral effects must come to be viewed as empirically-predicted outcomes, rather than as some phenomenon that the interventionist hopes for after intervention.

Perhaps one of the most pressing areas for empirical scrutiny involves identifying and validating systems-change strategies to assist professionals in working collaboratively toward successful inclusive education for all individuals. This particular area of scrutiny requires a careful coordination of researchers in the areas of policy and personnel preparation.

Including Peers in Communication Intervention

Among even the most interactive and incidental intervention strategies, the bulk of instructional opportunities occurs in response to prompts or cues that have been teacher-arranged. A number of investigators (see Goldstein & Kaczmarek, 1992, for review) have suggested that a

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variety of strategies can be directed at peers of learners with severe disabilities to increase the probability that social/communicative interactions will occur. Goldstein and Kaczmarek (1992) suggest that providing quality peer responsiveness to learners with disabilities may provide a context more conducive to learning social and communication skills. However, they also suggest that peer intervention is not well suited to learning new skills. This latter observation presents formidable challenges to interventionists and creates a clear need to merge data derived from communication research with the empirical literature addressing intervention strategies to achieve inclusion.

Addressing the Differences and Similarities Between Home and School

Traditionally, the assumption seems to have been that communication skills established at school would be useful at home and vice versa. Although it would make the intervention process much simpler, this may not be the case. For example, if a learner wants a beverage at home, he may go to the refrigerator and get one. At school, however, obtaining a beverage may require a permission request. The vocabulary and, to some degree, the communicative functions most apt to be expressed may differ tremendously across environments. Rather than always viewing skills taught in one setting as needing to be generalized across environments, interventionists may wish to consider the environments as settings calling for potentially different communicative responses. During the early phases of intervention, an important consideration may be selecting some communicative responses that will be appropriate and frequently used across settings. This may be important to create a greater number of acquisition opportunities. At the same time, it may assist in the fostering of teamwork among professionals and parents across settings.

SUMMARY

Traditionally, communication interventionists focused on teaching a beginning repertoire of communicative behavior, once learners with severe to profound disabilities had emitted intentional behavior. Increasingly, interventionists are recognizing that valuable opportunities may be lost if intervention does not begin at an earlier point. In part, intervention strategies at increasingly earlier points have resulted from a prevailing change from semantically-focused intervention logic to pragmatic, interaction-focused intervention logic.

At the same time that intervention content has increasingly focused on pragmatics, there has been a wealth of information addressing the social functions served by repertoires of simple idiosyncratic (as well as socially unacceptable) behavior. The increasing availability of augmentative and alternative communicative options has provided an extensive array of motorically simple strategies to exert significant control and influence over one's environment.

We have long since passed the need to demonstrate that persons with severe disabilities can be taught a repertoire of communicative functions. However, we have not been as successful in demonstrating that the communicative behavior taught is well maintained solely in the presence of natural maintaining contingencies. Nor have we adequately demonstrated that established repertoires are sufficiently generalized.

Most recently, interventionists have begun to focus on more efficient strategies to use and on selecting the most critical teaching instances to use. Additionally, interventionists are considering response efficiency as an important variable in determining the likelihood that a learner will choose to emit elements of his or her communicative repertoire.

There appears to be a consensus among those who currently serve individuals with severe disabilities that inclusion represents an attainable objective for students with even the most severe disabilities. Unfortunately, it is not clear that either special or regular educators are being adequately prepared to accomplish included placements. There remains a significant need to recognize those aspects of best practice which must be further explored in regular education settings. What once were considered best practice methods may not meet the test of social validity and be considered best practices in regular classrooms.

The vast majority of intervention research has selected a fairly narrow communicative form or function to teach. Increasingly, information on maintenance and generalization is considered. However, often the periods sampled post-acquisition are very modest. Among the plethora of available communication intervention curricula, there are virtually none that have taken a learner from a point of engaging in no intentional communicative behavior to the establishment of an effusive repertoire of communicative functions and corresponding vocabulary.

There is a critical need for longitudinal efforts to validate curricula being developed for persons with severe to profound disabilities. Although important, it is no longer sufficient to demonstrate that repertoires selected for instruction have social validity at the point in time they were implemented. Increasingly, it is important to address how initial intervention decisions influence later intervention decisions. Only when this is scrutinized systematically will our intervention strategies become sufficiently streamlined.

To be able to express oneself has long been viewed as a cherished right. Many individuals with severe to profound disabilities have not been afforded this right, although not maliciously. Fortunately, our ignorance regarding strategies that allow learners to take advantage of opportunities is diminishing. Slowly, but persistently, interventionists are moving toward functional approaches that are assisting individuals with severe disabilities to exercise their right of free speech.

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Closing the Gap. Bimonthly newspaper. Address correspondence to: Closing The Gap, P.O. Box 68, Henderson, MN 56044. Or call (612) 248-3294.

Journal of Applied Behavior Analysis (JABA) (ISSN 0021-8855). Published quarterly by the Society for the Experimental Analysis of Behavior, Inc. Address correspondence to: Business Manager, Mary Louise Wright, Dept. of Human Development, University of Kansas, Lawrence, KS 66045.

Journal of Child Language. Send correspondence to : Cambridge University Press, 40 W. 20th Street, New York 10011.

Journal of Speech and Hearing Research (JSHR) (ISSN 0022-4685). Published bimonthly by the American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852-3279. Telephone: (301) 897-5700.

The Journal of the Association for Persons with Severe Handicaps (JASH) (ISSN 0274-9483). Published quarterly by The Association for Persons with Severe Handicaps, 11201 Greenwood Avenue N., Seattle, Washington 98133. Telephone: (206) 361-8870.

Mental Retardation. Send correspondence to: American Association on Mental Retardation, 1719 Kalorama Road N. W., Washington D.C. 20009. Telephone: (202) 387-1968.

Topics in Early Childhood Special Education. Address correspondence to: Pro-Ed Incorporated, 8700 Shoal Creek Blvd., Austin, TX 78758-6897. Telephone: (512) 451-3246.

Organizations

American Speech-Language-Hearing Association (ASHA), 10801 Rockville Pike, Rockville, Maryland 20852. Telephone: (301) 897-5700.

Closing the Gap, P.O. Box 68, Henderson, MN 56044. Telephone: (612) 248-3204.

International Society for Augmentative and Alternative Communication (ISAAC), 81 Topham Cresent, Richmond Hill, Ontario, Canada L4C9E9.

The Association for Person with Severe Handicaps (TASH), 11201 Greenwood Avenue N., Seattle, Washington 98133. Telephone: (206) 361-8870.

The Arc (formerly the Association for Retarded Citizens), Arc National Headquarters, 500 E. Border St. S-300, Arlington, TX 76010. Telephone: (817) 640-0204.

The Society for the Experimental Analysis of Behavior, Inc., Business Manager, Mary Louise Wright, Dept. of Human Development, University of Kansas, Lawrence, KS 660452.

Partial Listing of Projects
Serving Children and Youths with Severe Disabilities
Funded by Office of Special Education Programs, U.S. Department of Education

Projects Focusing on Communication Intervention

Project LIFE (Lifelong Impact From Education)
Wayne Fox
University of Vermont
449C Waterman Building
Burlington, VT 05405
(503) 838-8401

Project SAMS
Paul Alberto
Georgia State University
Department of Special Education
University Plaza
Atlanta, GA 30303
(404) 651-2310

Enhancing Conversation Skills with Assistive Technology
V. Mark Durand
University at Albany
Office for Research, AD 218
1400 Washington Avenue
Albany, NY 12222
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Functional Communication Training Using an Augmentative Communication System
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Research Foundation of the State
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Teacher Work Groups - A Strategy for Helping Teachers Implement Best Practices
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Attachment A

Taxonomies Describing
Instrumental Communicative Intents

Attachment A
Taxonomies Describing Instrumental Communicative Intents

Wetherby & Prizant (1989)	Cirrin & Rowland (1985)	McLean & Snyder-McLean (1991)	Coggins & Carpenter (1978)	Dore (1975)
Comment on Object: Acts used to direct another's attention to an entity.	Direct Attention to Object: Direction of listener's attention to an external, observable referent, or some object identified by the child. This includes the speaker taking notice of an object or labeling an object in absence of a request.	Request Attention to Other: Behavior used to direct the communicative partner's attention to some object, person (other than self), event, or state of affairs.	--------	--------
----------	----------	----------	Transferring: Gestures intended to place an object in another person's possession.	----------
----------	----------	----------	----------	Labeling: Uses word while attending to object or event. Does not address adult or wait for response.
Comment on Action: Acts used to direct another's attention to an event.	Direct Attention to Action: Direction of listener's attention to an ongoing action or event in the environment. Focus may be the movement or action of an object rather than the object itself. A "comment" on some ongoing activity.	(Refer to Request Attention to Other)	--------	--------

Wetherby & Prizant (1989)	Cirrin & Rowland (1985)	McLean & Snyder-McLean (1991)	Coggins & Carpenter (1978)	Dore (1975)
Show Off: Acts used to attract another's attention to oneself.	Direct Attention to Self: Direction of listener's attention to the child as a general attention-getter for some unspecified social purpose.	Request Attention to Self: Behavior used to attract attention to oneself. No other referent is indicated.	Showing Off: Gestures or utterances that appear to be used to attract attention.	---------
Call: Acts used to gain the attention of others, usually to indicate that a communicative act is to follow.	Direct Attention to Communication: Direction of listener's attention to self as a preface to another communicative behavior that follows immediately.	(Refer to Request Attention to Self)	(Refer to Showing Off)	Calling: Calls adult's name loudly and awaits response.
Acknowledgement: Acts used to indicate notice of another person's previous statement or utterance.	---------	---------	Acknowledging: Gestures or utterances that provide notice that the listener's previous utterances were received.	---------
---------	Answer: A communicative response from a child to a request for information from the adult listener. This typically takes the form of indicating a choice or answering a question.	---------	Answering: Gestures or utterances from the child in response to a request for information from the listener.	Answering: Answers adult's question. Addresses adult.
Clarification: Acts used to clarify the previous utterance.	---------	---------	---------	---------
Request Object: Acts used to demand a desired tangible object.	Request Object: Seeks the receipt of a specific object from the listener where the child awaits a response. The object may be out of reach due to some physical barrier.	Request Object: Behavior used to request an object. Interest is on the object desired.	Request Object: Gestures or utterances that direct the listener to provide some object for the child.	Requesting: Asks question with a word, sometimes accompanying gesture. Addresses adult and awaits response.

Wetherby & Prizant (1989)	Cirrin & Rowland (1985)	McLean & Snyder-McLean (1991)	Coggins & Carpenter (1978)	Dore (1975)
Request Action: Acts used to command another to carry out an action.	Request Action: Seeks the performance of an action by the listener where the child awaits a response. The child may specify the action (e.g., "sit") or the child's immediately preceding behavior give evidence that he realizes that some action is a necessary step to obtaining some object (e.g., signaling "help" to open a jar.)	Request Instrumental Action: Behavior used to direct a communicative partner to carry out action facilitating access to an object or attainment of a desired effect.	Requesting Action: Gestures or utterances that direct the listener to act upon some object in order to make it move. The action, rather than the object, is the focus of the child's interest.	Requesting Action: Word or vocalization often accompanied by gesture signaling demand. Addresses adult awaits response.
Request Information: Acts used to seek information, explanation, or clarification about an object, event, or previous utterance. Includes wh- questions and other utterances having the intonation contour of an interrogative.	Request Information: Seeks information, approval, or permission from listener, where the child awaits a response. This includes directing the listner to provide specific information about an object, action , or location.	Request Information/ Feedback: Behavior used to direct the communicative partner to provide information about an object, action, or location; to request approval/nonapproval, permission, or affirmation.	Requesting Information: Gestures or utterances that direct the listener to provide information about an object, action, or location.	---------
Request Permission: Acts used to seek another's consent or carry out an action; involves the child carrying out or wishing to carry out the action.	(Refer to Request Information)	(Refer to Request Information/Feedback)	---------	---------
Request Social Routine: Acts used to command another to commence or continue carrying out a game-like social interaction.	(Refer to Request Action)	Request Noninstrumental Action: Behavior used to direct a communicative partner's action. Goal is to instigate other's actions rather than to obtain an object or effect.	---------	---------

Wetherby & Prizant (1989)	Cirrin & Rowland (1985)	McLean & Snyder-McLean (1991)	Coggins & Carpenter (1978)	Dore (1975)
Protest: Acts used to refuse an undesired object or to command another to cease an undesired action.	----------	Request Cessation/Reject/Avoid: Behavior used to request a communicative partner to cease an undesired action or activity or to reject an offered object or anticipated event.	----------	Protesting: Resists adult's action with word or cry. Addresses adult.
Greet: Acts used to gain another's attention to indicate notice of their presence, or to indicate notice of the initiation or termination of an interaction.	----------	----------	Greeting: Gestures or utterances subsequent to a person's entrance that express recognition.	Greeting: Greets adult or objects upon its appearance.
----------	----------	----------	----------	Repeating: Repeats part or all of prior adult utterance. Does not wait for a response.
----------	----------	----------	----------	Practicing: Use of word or prosodic pattern in absence of any specific object or event. Does not address adult. Does not await response.

Note: A dashed line on the matrix indicates that a similar intent did not exist in that particular taxonomy.

Note: From Reichle, J., Halle, J., & Johnston, S. (1993). Developing an initial communicative repertoire: Applications and issues for persons with severe disabilities. In A.P. Kaiser & D.B. Gray (Eds.). (1993). Enhancing children's communication: Research foundations for intervention (pp. 110-114). Baltimore, MD: Paul H. Brookes Publishing Company. Reprinted with permission. (Available from Paul H. Brookes Publishing Company, P.O. Box 10624, Baltimore, MD 21285-0624. Telephone: 1-800-638-3775.)

Attachment B

Illustrating the Six Steps of General Case Instruction

Attachment B
Illustrating the Six Steps of General Case Instruction

1. Define instructional universe. It is during this step that the interventionist determines all of the stimulus conditions in which it would be appropriate to emit the target response, as well as the stimulus conditions in which it is not appropriate to emit the target response but which might be easily confused with conditions in which the behavior should be emitted.

2. Define the range of relevant stimuli and response variation within that universe. After the interventionist determines the stimulus conditions that comprise the instructional universe, it is necessary to determine the range of stimulus and response variability within that universe. In our example, the range of relevant stimuli variation would include variability in the containers that the milk is presented (e.g., glasses, cups, cartons), as well as variability in the settings and the people present. The range of relevant response variation would include the variability in the responses that need to be performed (e.g., response needed to access the symbol when the wallet is closed, response needed to access the symbol when the wallet is open).

3. Select examples from the instructional universe for use in teaching and probe testing. The interventionist selects positive teaching examples (members of the stimulus class that should elicit a target response), as well as negative teaching examples (members of the instructional universe which should not elicit the target response) for use in teaching and in probe testing. In teaching a learner to request milk, the interventionist would delineate specific situations where it is appropriate to request milk (e.g., in the presence of cartons, cups, glasses, milk), as well as situations where it is not appropriate to request milk (e.g., when juice or soda is offered as the only available beverage).

4. Sequence teaching examples. The sequence in which positive and negative examples are presented can effect the efficiency of instruction. One strategy might involve the interventionist sequencing the teaching examples so that, at first, the positive and negative strategies that are taught are maximally different (e.g., they share no relevant characteristics). Then, as the intervention progresses, the number of relevant characteristics shared by the positive and negative examples increases until the examples are minimally different (e.g., the negative examples share all but one of the relevant features that define the stimulus class of positive examples). In our example, we might choose a carton of milk and a bottle of soda as our first positive and negative examples. Then, as the intervention progresses, we might choose a clear glass of milk and a clear glass of orange juice.

5. Teach the examples. Teaching the positive and negative examples is accomplished using instructional techniques that represent current best practices (e.g., prompting, reinforcing appropriate responses, etc.). For our learners, we might choose to implement a stimulus prompting procedure where we gradually fade in the distractor symbol (e.g., the bottle of soda).

6. Test with non-trained probe examples. The interventionist is able to assess generalization by periodically conducting probe tests using stimuli that are not used in the context of intervention. Probe testing allows the interventionist to assess whether or not the learner is responding appropriately across the range of stimulus and response variation. For example, on one occasion, we might select a cup of hot chocolate as a negative example. On another occasion, we might choose a juice box as a positive example.

Innovative Assessment Measures and Practices Designed With the Goal of Achieving Functional Communication and Integration

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Curricula for individuals with severe disabilities have undergone a radical change in the last 20 years. Goals have shifted from a focus on prerequisite skills referenced to a normal-development model to a focus on teaching age-appropriate skills referenced to natural environments in which people function. Accordingly, assessment practices have changed dramatically to keep pace with curricular modifications. Changes in perspectives and values also have accompanied this movement. The communicative efforts of individuals with severe disabilities now are characterized as logical adaptations to their social and physical environment instead of deficits (relative to norm groups) in need of remediation.

The ideas and strategies presented in this paper reflect a functional approach to assessment.[1] *In the first section, form, function, and context (three components of any communicative act) are defined and described. Three assessment strategies (interviews, observations, and analogues) which scrutinize each of these components are surveyed in the second section. The third section delineates the goals associated with form, function, and context which facilitate decision-making. Finally, pressing concerns about utilization and dissemination of innovative assessment practices are identified in the fourth section.*

Status of the Field in Communication Assessment

Curricular considerations for individuals with severe disabilities have undergone a radical change in the last 20 years (Brown, Branston, Baumgart, Vincent, Falvey, & Schroeder, 1978; Mirenda & Calculator, this volume; Snell & Grigg, 1987). The focus has shifted from developing prerequisite skills (e.g., fine and gross motor) or skills referenced to a normal-development model to teaching age-appropriate skills that are referenced to the natural living, learning, and working environments in which people function. Most recently, preparing learners with severe disabilities to live, learn, and work in integrated settings has become the ultimate objective.

Assessment strategies and practices necessarily have been transformed in an attempt to keep pace with the curricular changes (Cipani, 1991). A more functional approach has evolved, one that maintains a focus not only on a learner's communicative repertoire but also on the context (i.e., social partners, physical settings, opportunities) in which the communication occurs. This evolution represents a substantial shift in the assessment process, a shift that recognizes how central the social context is in determining communicative behavior. As a result of this approach, the focus of assessment is equally distributed among the individual's communicative repertoire, the context in which the repertoire is displayed, and ultimately the relationships that form between the communicator and the communication context (including social partners). As Peck et al. (1986) have suggested, a functional approach to assessment assumes that individuals with severe disabilities behave in *adaptive* ways to ongoing changes in their environment. This approach contrasts sharply with the traditional one that identifies *deficits* in reference either to a norm group or to normal developmental milestones.

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Basically, assessment is undertaken to facilitate decision-making. Either a decision or a question should drive any assessment effort. The information derived from assessment data may serve any of three critical functions: (a) screening for identification purposes to access appropriate services; (b) providing information to fashion appropriate interventions; and (c) providing ongoing evaluation before, during, and after intervention. All three of these functions will be served by the strategies described herein. Whether we talk in terms of functions or decision-making, the quality of the information gleaned from assessment efforts will determine who receives services and the quality of the services we can deliver.

A convenient way to discuss assessment is to divide the strategies into formal (or standardized) and informal means. Traditionally, standardized tests have been the means employed to evaluate communication skills. These tests are used primarily for screening and diagnosis. Standardized tests are either norm-referenced (based on comparisons made between a norm group and the learner) or criterion-referenced (based on checklists of normal developmental milestones). In neither case do these assessments permit identification of functional skills or functional variables affecting communicative repertoires. Table 1 presents four major concerns with traditional assessment strategies elaborated by Peck et al. (1986) and Cipani (1991).

The goal of this paper is to enumerate strategies and practices for assessing the functional communication skills of individuals with severe disabilities. However, this paper will focus only on *informal* assessment strategies and practices that target a beginning communicative level in which learners are engaging in nonsymbolic behavior and early language repertoires. Not discussed in this paper will be assessment practices for learners

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Table 1

Major Concerns with Traditional Assessment

Focus on Deficits	A focus on discrepancies between normative and observed behavior leads to the identification of "deficits" in performance as curricular priorities. The assumption that the behavior of normally developing children is an appropriate goal for learners with severe disabilities is questionable.
Clinical Milieu	The assessment situation is clinical: distraction-free and adult-directed. Test items are verbally mediated. It is often unclear whether learners with severe disabilities comprehend either the language directed to them or the task at hand.
Context Variables	The context of the assessment situation contrasts sharply with natural social contexts; thus, the communication sampled is quite limited. Traditional assessment maintains a focus on the communicative performance of the learner, independent of the context in which such communication naturally occurs. Such as omission underestimates communicative competence.
One-time Sample	Allowing only one opportunity to reveal communication skills may not provide an accurate picture. Variability in performance from day-to-day or from morning to evening may be due to an infinite number of influences. Thus, assessment may yield unreliable or invalid information. An unfamiliar adult (the assessor) alone may differentially affect the performances of different learners.

with the *most* severe disabilities or for those with sophisticated language repertoires (e.g., contextually appropriate phrases or sentences, or conversations that are flexible, involve multiple turns, and employ social conventions). Please refer to the Resources section of this paper for literature pertaining to these excluded topics.

Consistent with a functional assessment approach, any communicative event consists of three interrelated components: form, function, and context. These three components constitute a major organizing theme for the remainder of the paper. Each will be defined, and examples will be provided later in this section. Applications of functional assessment strategies that focus on form, function, and context will be introduced, and examples of these applications will be described in the section entitled "Designing More Functional Assessment Formats." Assessment goals related to form, function, and context will be discussed, and a novel assessment strategy will be recommended in the third section, "Using Assessment Information to Make Better Decisions." In the final section, "Enhancing Utilization and Dissemination," concerns about current efforts to translate research to practice will be discussed.

Definition and Description of Communicative Form

The form that communication assumes also has been referred to as the topography, structure, mode, or modality of communication. It consists of the physical movements that comprise the communication, varying from the vocal musculature active in speech, to gestures, signs (e.g., ASL, SEE), and facial expressions, and to challenging behavior (e.g., aggression, self-injury). Communication forms have been divided into categories or classes that share common characteristics. For example, Reichle (1992) divides communicative form into three broad categories: verbal, gestural, and graphic. Each broad category is divided further into two subclasses (e.g., the verbal category contains verbalizations or speech and vocalizations). Historically, communication intervention has focused on the symbolic or linguistic categories. According to Reichle's taxonomy, these would include verbal, graphic, and sign. Only recently have researchers and practitioners begun to address nonsymbolic forms such as gestures or other behavior as communicative in function (O'Neill, Horner, Albin, Storey, & Sprague, 1990; Warren, Yoder, Gazdag, & Kim, in press).

McLean and Snyder-McLean (1988) delineated three classes of "intentional" communicative forms: primitive, conventional, and referential. *Primitive* forms are direct motor acts on objects and people, such as turning away from an unpreferred object or leading a listener to a desired object or activity. *Conventional* forms do not necessarily involve direct contact with an object or person. These might include pointing to or displaying an object, or gesturing for an object or for the attention of another. *Referential* acts include the use of symbolic forms or linguistic structures such as speech, sign, or graphic systems. Although many additional taxonomies of communicative forms have been generated (e.g., Cirrin & Rowland, 1985; Halle, Chadsey-Rusch, Collet-Klingenberg, & Reinoehl, 1990; Reichle, 1992; Siegel-Causey & Guess, 1987; Vicker, 1985), the important aspect for assessment purposes is to identify those forms that are currently functioning as communication for the target individual.

Definition and Description of Function

In the discussion above pertaining to communicative form, an assumption was made that the behavioral topographies were indeed communicative. None of these topographies in isolation obtains the status of communication; rather, a listener needs to be present or available to mediate or respond to the message. To the extent that a contingent relationship develops between specific behavioral topographies of a "speaker" and changes in the environment mediated by a listener, communication is evolving.

Communicative function has been defined from the perspective of at least two different conceptual systems. One perspective is that of pragmatics. Pragmatics is the study of communication within a social context. Pragmatic functions have been elaborated in the child language literature and include such functions as requesting, protesting, commenting, and greeting. Various taxonomies of pragmatic function are summarized and compared in a table in the Reichle, Feeley, and Johnston paper contained in this volume. Within the perspective that communication occurs within a social context, all communicative acts have a function in terms of the speaker's intent (i.e., the speaker intends to affect the listener in particular and specified ways). For example, Wetherby and Prizant (1989) describe such factors as alternating eye gaze between object and listener, persistent signaling until the goal is accomplished or failure is indicated, and awaiting a response from the listener as behavioral evidence for intentionality.

A second perspective on communicative function is represented by Skinner (1957), who categorized communicative acts by their effect on listeners. He offers an elegant analysis of how a behavior may become communicative in the context of this latter approach. An infant's cry may be undifferentiated and devoid of intent soon after birth. However, in time, the mother's responses to the infant's cries under particular conditions may confer function to the crying. For example, cries may produce a bottle or being picked up or a change of diapers. Over time, a child may learn to cry when hungry, when wanting attention, or when wet. Parents often report they can differentiate cries that signal one or another intent.

From this conceptual orientation, communication functions to access reinforcers or to escape or avoid unpleasant situations. Perhaps the best illustration of assessment and associated intervention emanating from this perspective is the work of O'Neill et al. (1990) and Horner, O'Neill, and Albin (1991). Although these investigators focus on challenging behavior among learners with severe disabilities, their strategy of assessment is applicable to communication. In fact, much of the challenging behavior exhibited by those with more severe disabilities (and by others) may be communicative (see Durand, this volume).

Another aspect of communicative function can be distinguished in the context of dyadic interaction: Any communicative act can be categorized as initiating, maintaining, or terminating an interaction (McLean, Snyder-McLean, Brady, & Etter, 1991). This aspect has implications for communication assessment when multiple-turn interactions are the goal. For example, if a learner successfully acquires a request function and uses it in a flexible generalized fashion, one goal may be met (i.e., teaching generalized requesting), but such a skill in isolation necessarily restricts the learner to the role of initiator in social interactions. Assessing learners' use of their communicative repertoires to initiate, maintain, and terminate social interactions ought to be included in any comprehensive assessment of communication. Reichle (1991), Reichle, Halle, and Johnston (1993), and Reichle and Sigafoos (1991) provide extensive discussions of teaching implications based on these three components of social interactions.

Definition and Description of Context

As it is used here, context is a rather general term and encompasses a wide-ranging set of conditions that occur prior to, concurrent with, or subsequent to a communicative act and determine the probability of the act itself, as well as its form and function. To give more meaning to the term, a sampling of different perspectives is offered here. Some examples focus on a specific component of context, while others attempt to be comprehensive in scope.

Investigators working within an applied behavior analysis framework have used an A-B-C (Antecedent-Behavior-Consequence) model to facilitate an assessment of the conditions that influence communicative behavior. To date, the function of consequences (as positive or negative reinforcers and punishers) has been elaborated in more depth than antecedents. Although useful for encouraging assessors to focus on antecedent events and conditions, the term *antecedents* has been too nondescript and interpreted too simplistically to be of substantial value. Until recently, antecedents have been defined as discrete stimuli (e.g., the presence of a cookie or a question by another) that occur either immediately before or concurrent with the communicative act.

Emanating from this same conceptual framework are terms that begin to capture the needed complexity of an analysis of communicative behavior. For example, Kantor (1959) coined the term *setting factors;* this term was later renamed by Bijou and Baer (1961, 1965) and Wahler and Fox (1981) as *setting events.* These events or conditions may include deprivation/satiation states; illness, pain, or infection; presence/absence of objects, materials, or people; and recent history of interactions. What is unique about the recognition of setting events is that applied behavioral investigators are beginning to assess factors that are more complex (e.g., prior history), more difficult to measure (e.g., internal states), and further removed in time from the behavioral event.

More descriptive than antecedents and more encompassing than setting events are frameworks offered by Bijou and Baer (1978) and Peck (1989). Each represents a somewhat different way of dividing the "context" pie.

Bijou and Baer (1978) described four sets of variables that need to be considered in any assessment effort: physical, chemical, organismic, and social. Drawing on Bronfenbrenner's (1979) conceptualization of three levels of ecological factors influencing child development, Peck (1989) distinguished three levels of environmental variables affecting communicative interactions: (a) dyadic variables (e.g., specific partner behaviors, interaction styles); (b) situational variables (i.e., extent to which daily occasions provide motivation, opportunity, and responsive outcomes for communicative acts); and (c) setting variables (e.g., characteristics of the school, home, and community environments).

Kaiser and Warren (1988) capture the complex interplay of contextual variables in determining speech acts:

> Context is more than who is present, when, with what objects, and immediate environmental setting. These dimensions are important, but they do not exhaust the range of utterance-external variables that affect the use and interpretation of verbal behavior and that must be considered among the set of potential controlling stimuli. For example, part of the context is language directed to the child and language by the child that precedes an utterance. Aspects of the immediate social relationship between the child and others (e.g., eye contact, body orientation), past history shared by the child and others present (including previous reinforcement history), and numerous other events (occasion, form, and content of previous utterances) are also contextual-stimulus variables. (p. 409)

Designing More Functional Assessment Formats

Researchers and practitioners (e.g., Halle et al., 1990; Peck et al., 1986; Peck & Schuler, 1987; Reichle & Yoder, 1979; Snyder-McLean, Rogers, & Etter, 1987) have developed three generic methods for assessing the communicative competence of learners with severe disabilities: interviews, direct observation, and analogues. The latter method has been given many different labels (e.g., systematic manipulations, structured protocols, contrived communicative situations, simulations), leading to some confusion in the field. Each of these methods permits an evaluation of the three interrelated components of a communicative act (i.e., form, function, and context). They provide an assessment of skills not addressed by traditional standardized or criterion-referenced tests by including multiple sources of data (triangulation), repeated measures over time, and evaluation within natural(istic) contexts. In the section that follows, the methods will be defined and described, and then the manner in which they provide an assessment of communicative *form, function, and context* will be elaborated. Table 2 contains questions that may be answered and the focus of information obtained when implementing these three generic strategies.

A task prerequisite to the implementation of these methods involves compiling a record of the learner's communication history. This is composed of past intervention efforts, current residential, school, work, and community environments, and the most recent assessment of the learner's level of communication (see Table 3 for an example of a Communication History form). It would be a mistake to assume that everything done before the present time is irrelevant or unimportant. Thus, when practitioners embark on the task of assessment, they should capitalize on what is already known.

Communication Interview

Who should be involved. The communication interview is conducted to gather information about a learner's communication skills from the perspective of those who are familiar with the learner, such as a parent, a teacher, a group home manager, a sibling, an employer, or a co-worker. A critical element of the interview is that it be conducted with a number of interviewees who have different relationships with the individual across varying situations and settings (e.g., home, school, work, community). The person conducting the interview may be one of the familiar people mentioned above or may be a person less involved in the learner's environment (e.g., a consultant, related service personnel).

Information gathered. Specific information obtained from the interview includes the forms the learner uses to communicate, his or her communicative intents or functions, and the social and physical context in which the learner communicates. This information may be useful in multiple ways: (a) to assist in planning interventions; (b) to assist in determining the content of the analogues; (c) to compare to the information gathered by the other two methods (direct observation and analogues), to assess the correspondence among the methods; and (d) to assess reported communicative performances across varying people and settings.

Two examples of communication interviews are located in Attachment A, which is presented immediately following the listing of references and resources at the end of this article. Please note that, in one case (Peck & Schuler, 1987), the exact forms are listed; in the other (Halle et al., 1990), classes of communicative forms are enumerated. In either case, the interviewer simply checks the column that matches the form identified by the interviewee. By scanning the page vertically, a visual pattern of the learner's communicative forms is revealed. For example, if only one or two columns are marked repeatedly, it is clear that the variety of

Table 2

Functional Assessment Strategies and the Type of Data They Collect

Questions	Strategies	Focus
How learner currently communicates	**Communication Interviews** **Direct Observation** **Analogue Assessment**	Form Function Context
What learner is capable of communicating	**Analogue Assessment**	
What learner needs to be able to communicate	**Ecological Analysis**	Reference point: given an environment
	General-Case Analysis	Reference point: given a communicative function
	Intuitive Analysis	Reference point: given the experience of fluent language users

Table 3
Communication History Form*

Completed by: ______________________ Date: ____________

Student's Name: ______________________ Age: ______

Current Communication System

__ **Graphic**

Symbols used:
- __ Mayer-Johnson PCS
- __ Photographs
- __ Logos
- __ PIC
- __ Bliss
- __ Other

Symbol size: ______

Symbol display:
- __ Board
  - __ portable
  - __ permanent
  - Approximate size: _____
- __ Wallet
  - __ single page
  - __ multi-page
  - __ # of pages
- __ Isolated symbol(s)
  - # of symbols ___
- __ Other ____________

__ **Gestural**

Type of sign:
- __ ASL
- __ SEE
- __ Natural Gesture
- __ Other ________

Approximate # of signs: ________

__ **Verbal**

Intelligibility:

1——2——3——4——5
Low High

MLU: ____________

Vocabulary size: _____

____

Current Communication Settings

Living Environment

- __ With family
  - # of members _____
  - Ages of siblings:
  - ____________
- __ Group home
  - # of residents _____
  - Ages of residents:
  - ____________
- __ Other situation:
  - ____________

School Settings

- __ Integrated setting (yes/no)
- __ School level
  - __ primary
  - __ middle school
  - __ junior high
  - __ high school
  - __ other ________
- __ Classroom type
  - __ integrated (i.e., mainstreamed)
  - __ segregated (i.e., only persons w/MR)
- __ Integrated activities
  - __ lunch
  - __ P.E.
  - __ breaks
  - __ home-ec
  - __ other ________

Work Settings

- __ Integrated setting (yes/no)
  - __ nonhandic. workers
  - __ same age workers
  - __ ratio of nonhandic. workers to workers w/disabilities
- __ Hours worked
  - __ 5-10 per week
  - __ 10-15 per week
  - __ 15-20 per week
  - __ 20-30 per week
  - __ 30-40 per week
- __ Type of work (describe)
  - ____________
  - ____________
  - ____________
  - ____________

Community Settings

- __ Community-based classroom (yes/no)
- __ Hours spent per week in community
  - __ 0-5 per week
  - __ 5-10 per week
  - __ 10-15 per week
  - __ 15-20 per week
  - __ Other
  - ________
- __ Community settings
  - __ restaurants (# of) ________
  - __ grocery stores (# of) ________
  - __ other stores (list)
  - ____________
  - ____________
- __ Other settings (list)
  - ____________
  - ____________

---

* Halle et al. (1990). The Communication Strategies Project.
Attach a copy or listing of the symbols, signs, or words in the learner's repertoire.

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Table 3
Communication History
(continued)

1. How have people attempted to teach this system? (i.e., instructional procedures)

2. Which of these procedures have appeared to have some success?

3. Which of these procedures have not appeared to be successful?

4. Does the learner use all of the vocabulary items in his or her present system? If not, which ones does he or she generally not use?

5. How were the vocabulary items selected?

6. Does the learner need to be prompted to use his or her system? If so, what types of prompts are necessary?

7. Does the learner have his or her communication system with him or her, accessible to use all the time?

8. Does the learner use his or her communication system in a spontaneous manner? Give an example.

9. Does the learner need to use his or her primary communication system in all settings? If not, which ones do not require it? Why?

10. Do others in the learner's environments use the same or similar modes for communicating? If not, (a) list the number of individuals who use verbal communication: ____; (b) list the number of individuals who use graphic systems of communication: ____; (c) list the number of individuals who use gestural systems of communication: ____.

11. How do others who use different communication systems interact with the learner?

12. How many students are in the same classroom with the learner? ____ How many people does the learner work directly with in the job placement site? ____ How many people (on average) does the learner interact with during community training times? ____

forms is quite restricted. Furthermore, if almost all of the columns marked are on the left side of the page, then the forms used are more primitive and idiosyncratic as opposed to conventional and symbolic (which are marked on right side).

Communicative function is the organizing theme for both the Halle et al. (1990) and the Peck and Schuler (1987) interview assessments. In both, functions are evaluated by posing questions that delineate the context in which communicative acts defining that function are likely. Examples of questions posed are: "What if child wants adult to look at him/her?" or "How does child get preferred significant other (identified earlier in the interview) to pay attention to him/her?" For either question, if the respondent recalls a response form used to obtain attention, then information is gained about both form and function. In contrast, if the respondent does not recall a response form used for this purpose, then it remains unclear whether the learner possesses the function or not.

In all three types of assessments, function cannot be separated from (evaluated independently of) context. The context sets the occasion or provides the reason/motivation for the communicative act. In both Halle et al. (1990) and Peck and Schuler (1987), generic questions that represent context are posed. Halle et al. begin the interview by gathering information on learner likes/dislikes in terms of people, activities, objects, consummables, and settings. This information is then infused throughout the interview to individualize the context/questions to the learner being assessed.

Although the communication interview is a relatively efficient means of gathering information about the learner's form, functions, and context, some limitations are noteworthy. The accuracy of the information depends on the memory and accurate reporting of the interviewee, as well as on the protocols of the interview itself (e.g., how well the questions reflect the communicative competence of learners, how questions are posed -- do they "lead" the respondent?). Furthermore, especially when the forms identified are prelinguistic, the relationships among form, function, and context are suspect and require substantiation by the other two methods.

Direct Observation

Purpose. The second major method of assessment is *direct observation.* This method entails observing the learner in his or her natural environment without imposing any restrictions on behavior. Direct observation permits an independent assessment of some of the information gathered in the communication interview. Direct observation may be specific and circumscribed, such as gathering information on a specific communication target, or requesting items at mealtime, or it may be more general and exploratory, such as gathering data all day long for two weeks to identify multiple occasions for communication and the varied forms and functions used by the individual in his or her everyday settings.

Who should observe. O'Neill et al. (1990) have offered a number of recommendations. Observational data should be gathered by people who are in direct contact with the individual observed (i.e., natural social partners), such as family members, school personnel, residential and vocational staff, and peers. If multiple people are involved in the observations (e.g., exploratory observations mentioned above), it is critical that they record consistently with one another. This requirement necessitates varying levels of training, depending on the complexity of the observational system. If more than one potential recorder is present when an observation is to be conducted, a designee must be assigned in advance. Recording consistency is also crucial for assessing accuracy and replicability when only one observer is recording, a situation that may be more typical than multiple observers.

Formats and information obtained. Direct observation assessments may assume varying formats (e.g., Alberto & Troutman, 1990; Halle et al., 1990; O'Neill et al., 1990; Peck & Schuler, 1987). For example, simple A-B-C (antecedent-behavior-consequence) analyses have been used where the antecedents (e.g., social partners, activities, demands, physical setting, time of day, setting events) occurring prior to or concurrent with a communicative act are recorded; the communicative act (form) itself is described, as is the consequence or environmental effect following the act. Because such analyses focus on communicative acts, they omit at least one crucial category of variables: occasions when communication clearly was required or would be appropriate but was not produced by the learner. The assessment of such "obligatory" occasions demands additional strategies.

Often, these A-B-C analyses are not simple; rather, they permit the gathering of a great deal of information relevant for an assessment of communicative competence of individuals as they function in their natural environments. Halle et al. (1990) have fashioned an observational recording protocol that borrows heavily from one developed by O'Neill et al. (1990) in order to assess challenging behavior. (This protocol is presented in Attachment B.) The recording form contains four major categories: (a) the form used by the "speaker;" (b) the antecedents that may have occasioned the communicative act; (c) the function the act served for the "speaker" (e.g., motivation); and (d) the consequences of the act mediated by the listener (e.g., responsiveness of the social environment). These data are difficult to gather and are labor-intensive. The reliability of determining the function of each act has been a challenge, because it requires a judgment about intent. The response to this problem has been to use the listener's response as a determinant. Invoking Wetherby and Prizant's (1989) criteria for assessing intent might be helpful.

Peck and Schuler (1987) developed a different observational format in which they organized learner communicative behavior according to its function within a social exchange: initiate, respond to, maintain, and terminate. Their focus was not on quantification of these communicative events but, rather, on detailed descriptions of response forms and context variables. Depending on the observational format, the types of information obtained vary greatly and may include: (a) identification and quantification of communicative forms and/or functions; (b) contextual variables (e.g., presence/absence of people or materials, settings, activities, responsiveness of listeners) that are associated with the communicative acts; and (c) contexts in which communication is unlikely or unnecessary. This last information source, which is prominent in the evaluation of challenging behavior, is often overlooked in communication assessment. Yet it may be crucial for implementing effective integration plans. For example, if a young child's communicative repertoire is quite limited, but his motor skills are similar to those of his nondisabled peers, then introducing integration efforts in contexts that capitalize on the child's competence may produce an initial impression that enhances positive outcomes by insulating the child from the stigma associated with incompetent behavior or failure.

After completing observations, we still do not know whether any particular antecedent (or a combination of them) or consequence is related functionally to the communicative act; we only know the sequence. Thus, direct observation as an assessment method suffers from the same limitation attributed to the interview method. To the extent that we observe repeated instances of or consistency in particular antecedents preceding (or consequences following) particular behavior, functional relationships become more probable, but they must await analogue assessment for more definitive conclusions. Another limitation of direct observation is the expense in terms of time required, time that has opportunity costs (i.e., could be spent in other functional ways). When direct observation is used, efficiency may be optimized by selecting observation times with a high probability of communicative attempts. Capitalizing on information gathered in the interview may permit strategic selection of times and contexts.

Analogue Assessment

Formats. This method of assessment consists of the systematic manipulation of a variety of variables to observe directly their effects on communicative performance. Analogues may assume a number of formats that vary from naturalistic (i.e., approximate conditions operating in the natural environment) to contrived (i.e., conditions that optimize the probability of a communicative response regardless of their ecological validity).

Snyder-McLean et al. (1987), Halle et al. (1990), Peck and Schuler (1987), and others have developed "structured protocols" to evoke specified communicative functions (see Attachment C). For example, known preferred objects or materials may be placed in their natural containers that the learner cannot access without help. Or a teacher or parent may "accidentally" pour ketchup on the table and floor to see how a learner will respond. Both the form and the function may be assessed in the presence of these challenge probes. Although the form used by the learner may be in question, if a response occurs, the communicative function expected on the former occasion would be a request; in the latter, a comment.

When to conduct. When considered in the context of the findings derived from the other two methods of assessment, analogues might be conducted at different points in the assessment sequence to answer specific questions arising from the other assessments. For example, they might be conducted immediately after the Communication Interview when it has revealed potential targets that occur infrequently in natural environments. Analogues permit the assessor to increase, albeit artificially, the opportunities for the display of such targets. The conditions that are thought to evoke the communicative act can be contrived or simulated to confirm or disconfirm what was suggested in the interview. After administering the interview and observing directly in natural settings, assessors may have narrowed the field of potential variables influencing targeted acts. To test the veracity of the relationship between these variables and the communicative behavior, analogues can be administered in such a way that environmental variables might be repeatedly presented and withdrawn to determine the consistency of communicative behavior under the two conditions (O'Neill et al., 1990). For example, variables relevant for requesting might include the presence of preferred objects or materials, asking a question, or encountering a physical barrier while walking. Such procedures can produce compelling evidence about the role of particular variables in affecting communicative performances.

To illustrate, assume that on some occasions preferred materials are made visual but inaccessible, and on other occasions nonpreferred materials are visible but inaccessible. If requests (regardless of form) occur on the former occasions and not on the latter, then it would seem that both status as "preferred" and presence of the material are functional contextual variables. Assume further that the listener on all prior occasions was quite familiar to the learner. We now may assess familiarity of the listener as a factor by varying the listeners according to their familiarity, using analogues identical to the ones described above, which produced consistent requesting. To the extent that we see discriminated responding by the learner (e.g., while in the presence of familiar listeners but not in the presence of unfamiliar listeners, the learner requests preferred materials when they are seen but out of reach), we have evidence that familiarity of the listener *in this context* is a functional variable occasioning requests (for more information, refer to the section on Multiple or Conditional Control).

Finally, analogues may occur at any time in the assessment process as "challenge" probes. Touchette (personal communication, 1991) used this term to describe analogues conducted to assess the effectiveness of intervention with challenging behavior. These probes consisted of programming occasions known to produce the target behavior to evaluate learners' responses after intervention is underway. Iwata, Dorsey, Slifer, Bauman, and Richman (1982) used a similar strategy, but their analogues were more generic in origin. Their purpose, however, was similar: to assess conditions thought to be influential in producing challenging behavior. The parallel in communication assessment is the structuring of occasions that provide optimal conditions for anticipated performances.

Using Assessment Information to Make Better Decisions

Goals Related to Form

Although form cannot be considered independently of function and context, it is safe to identify the major goal of assessing communicative form without reference to these other two components. We should always be striving to teach or facilitate more conventional and more sophisticated forms of communication -- forms that permit users to more accurately and more precisely communicate their intent so that it will be understood by the listener. Reichle, Halle, and Johnston (1993) provide a framework for decision-making about maintaining or elaborating current forms versus establishing new ones. Three considerations are relevant.

First, although we are always attempting to establish more conventional and sophisticated forms, on some occasions less conventional or even primitive forms may be most efficient (and are, indeed, used by fluent speakers). For example, pointing (a conventional form) permits a speaker to interact with a listener without interrupting an ongoing conversation; similarly, when one's mouth is full of food and a server comes with a pot of coffee, presenting an empty cup (a primitive form) is efficient, socially acceptable, and clearly communicative. Finally, on a cold day, when an acquaintance drives by in her car with the windows closed, a wave is eminently more appropriate than yelling "Hi!"

> We do not believe that the interventionist's task in establishing communicative forms is to move from primitive to more conventional gestures without regard to the learner's existing repertoire. Instead, the task is to use the learner's existing repertoire and carefully determine which aspects of it can be blended or shaped into a well-planned system. (Reichle, Halle, & Johnston, 1993, p. 120)

A second consideration pertains to the elaboration of current forms. Because of the difficulty of teaching new behavior, to be efficient we must capitalize, when feasible, on current repertoires. Shaping and chaining are instructional strategies capable of producing elaboration of current forms that are either uninterpretable or imprecise. If a form such as a handwave is not understood by a listener due to spatial placement (hand extended sideways instead of upward) or articulation (hand is closed in a fist or there is no back and forth motion), then shaping by reinforcing successively closer approximations to the target form may produce a communicative social greeting. Similarly, if a learner produces nonspecific "help" requests on occasions in which the object of the request is unclear, then a chaining strategy could be invoked by adding a new form (such as pointing) to enhance communicative precision.

The literature on challenging behavior is relevant to the third consideration: Some current forms are so unacceptable that they should not be retained in the individual's repertoire. It is important, however, to identify the effects or outcomes of the unacceptable behavior to determine functionally equivalent forms that might be taught as substitutes (see Durand, this volume). Although the unacceptable forms may need to be replaced, the situations and contexts in which they occur provide important information about *when* or the *conditions* (the context) under which the equivalent response needs to occur.

Goals Related to Function

If the focus of assessment is communicative function, then two goals are relevant. One is to identify the range of functions reflected in the learner's current repertoire; the second is to determine the functions required by the learner to be *successful* in current and future environments. To a large extent, one's *success* will actually determine what the current and future environments will be. That is, a major determinant of inclusion in integrated work, school, and recreational environments is the effectiveness and sophistication of one's communicative repertoire.

Once information is obtained on the learner's existing communicative functions and on those required in current and probable future environments, additional assessment efforts should focus on identifying the boundaries or limitations of "known" functions. That is, a learner may use a request to obtain a preferred material or food but not to access an activity or a person's attention. In this example, a goal for the request function may be to broaden or extend the conditions under which it is used.

One means of conceptualizing the conditions under which requests occur is to categorize them according to their function within a social exchange: initiate, maintain, or terminate. If the assessment reveals that requests are used to initiate but not to maintain or terminate interactions, then intervention efforts might focus on extending the conditions under which requests may occur, so that they may function to maintain or terminate an interaction. Reichle, Halle, and Johnston (1993) provide many examples of how requests, protests, and comments might be used to initiate, maintain, or terminate social exchanges.

In addition to extending the conditions under which known communicative functions occur, another goal of assessment is to identify new (i.e., unknown) communicative functions that are needed in current environments or will be needed in future environments. Decisions to broaden use of a learner's known repertoire or to teach new functions should be informed by and based upon a thorough ecological inventory that documents communicative demands in current and probable future environments. It is the discrepancy between current communicative competence and what is required to interact effectively in integrated settings which provides a focus for intervention efforts. Ecological inventories will be described in more detail in the section labeled "Goals Related to Context."

Before completing the discussion of goals relevant to communicative function, it is important to emphasize a concern about our current framework for conceptualizing communicative function. We have borrowed from the child language literature on pragmatics and have divided social-communicative acts into a number of discrete functions according to the intent of the speaker. Unfortunately, the various functions do not appear to be mutually exclusive nor do they provide predictive or explanatory power to enhance our understanding of how communication is acquired. For example, once a particular function such as a greeting is acquired, the greeting may not be used in a flexible and generalized manner; rather, it appears to be a form under specific contextual control. A specific illustration is warranted.

If Jenny, an 8-year-old learner with severe disabilities, consistently requests "help" in getting her winter coat off by pointing to a symbol on a communication board, we might refer to the pragmatic function of the request either as a request for assistance or a request for action based on the form of the response and the context in which it is displayed. Alternatively, the same request could be considered as an escape response, one allowing Jenny to escape the unpleasant sensation of being too warm. Requests for assistance could serve either of two functions: (a) to access a highly preferred item or event, or (b) to escape an unpleasant event or situation. If this is true, then requests for assistance may be more appropriately labeled as a form and not as a function.

Reichle (1990) provided some empirical evidence for this argument. He found that by teaching requests for assistance only on occasions that permitted escape or avoidance of unpreferred activities, similar requests failed to occur on occasions that would have permitted access to highly preferred objects and events. The functions represented by these two occasions are very different; yet they may come to produce the same form -- a request for assistance. This concern about whether pragmatic functions are indeed functions or whether they operate more like forms has major implications for how we conceptualize, categorize, and assess communicative functions. The current perspective favors identifying the function of a communicative act in terms of the context in which it occurs and the effect it has on the environment.

Goals Related to Context

Context is equivalent to the conditions under which communicative responses occur. Some of these conditions affect the probability of responses, and some do not. The goals for communication assessment in terms of context are multifaceted. Three assessment questions are posed:

Question 1. What are the conditions under which current communicative acts occur, and are there other conditions that ought to occasion such acts? If a learner with severe disabilities greets family members upon arriving home from school, but does not greet teachers or peers at school in the morning or clerks in stores when in the community, then the conditions under which greetings occur need to be extended.

Question 2. What are the communicative opportunities and demands (i.e., contexts) presented by current and probable future environments in which learners are expected to function? Careful analysis of these demands and opportunities yields critical information for ensuring that the content of communicative intervention is relevant to the learner's current and future life. This method of analysis is referred to as *ecological assessment* or *ecological inventory* (Brown, Branston, Hamre-Nietupski, Pumpian, Certo, & Gruenewald, 1979; Brown, Long, Udvari-Solner, Davis, VanDeventer, Ahlgren, Johnson, Gruenewald, & Jorgensen, 1989; Falvey, 1986; Ford et al., 1989; Sigafoos & York, 1991; Snell & Grigg, 1987). Brown et al. (1979) described a six-stage ecological inventory for curriculum development which is generic in terms of the skills identified. Sigafoos and York (1991) focused specifically on the use of ecological inventories to promote functional communication. They identified six assessment targets, including: (a) the communicative functions required to respond to environmental demands and opportunities, (b and c) the mode(s) and the specific vocabulary needed to respond effectively in the available contexts, (d) the natural cues and consequences that need to be made salient, (e) times during the day when instruction ought to occur, and (f) the determination of a sequence of teaching opportunities.

Although not often categorized under ecological assessment, general-case analysis (Horner, Sprague, & Wilcox, 1982) provides another means of surveying current and future environments to determine appropriate intervention targets (i.e., response classes), as well as a very precise listing of contextual conditions under which the target responses need to occur (i.e., stimulus classes). In the last few years, investigators have begun to extend general-case programming to communication and language (Chadsey-Rusch & Halle, 1992; Halle, Chadsey-Rusch, & Collet-Klingenberg, 1993; O'Neill, 1990; Romer, Cullinan, & Schoenberg, 1991).

Assessment information within the general-case model may extend beyond that produced by interviews, observations, analogues, and ecological inventories in two respects. First, when defining an instructional universe, an assessor needs to go beyond current and probable future environments. All of the contexts in which the targeted function would be considered appropriate need to be sampled. Second, variations in response forms which have the same functional effect on the listener need to be considered in the analysis. This emphasis on the identification of response classes is not shared by the other assessment strategies. Combinations of methods may be optimal. For example, ecological inventories assist in pinpointing contexts and occasions for particular forms and functions and, thereby, inform general-case analyses (see Table 2).

Question 3. What are the contextual conditions that influence communicative acts of fluent and sophisticated language users? It is interesting that this question has rarely been asked in reference to communication assessment of learners with severe intellectual disabilities. At first, the question may seem irrelevant for many of the learners with whom we interact; however, closer scrutiny may reveal that many of the same contextual conditions must be in place, regardless of the skills of the speaker, if we are to claim we have taught functional communication (see Table 2). Halle (1989) developed an "intuitive analysis" of social greetings and discovered that a number of contextual variables surfaced that had not been considered previously. The outcome of this intuitive analysis is elaborated in Attachment D.

A number of fascinating issues pertaining to assessment and intervention arise from this intuitive analysis. Four of the most intriguing ones are described and elaborated in the context of social greetings; however, their implications may apply to any communicative act.

Multiple or Conditional Control. This issue begins to capture the complexity that defines the determination of human behavior. We now realize that behavior is not determined by a single isolated stimulus; rather, many stimuli influence the evoking properties of other stimuli to determine which response will occur (Halle, 1987, 1989; Halle & Holt, 1991; O'Neill, 1990; Kaiser & Warren, 1988). Examples relevant to social greetings include: (a) the level of familiarity required to evoke a greeting may vary with gender and by setting; (b) the level of proximity required may vary by setting (e.g., church versus football stadium) and with familiarity; and (c) ulterior motives may override competing behavior and familiarity. We must understand these complex interactions of stimulus events, and we must include them in our models if we are to provide meaningful outcomes for learners with severe disabilities.

Function or Motivation of Communication. If we are to teach greetings to learners who lack this social skill, it is crucial that we understand why people greet one another. Typically, greetings function as a social event that permits the greeter to gain the attention of a listener; they also serve as an entree to extended interactions (e.g., they permit the maintenance of attention). Their function, however, may be to fulfill a necessary social obligation before accessing other reinforcers that are not social (e.g., objects, food, information). Finally, the same form of greeting (e.g., "How ya doin'?") may have multiple functions -- to access the attention of another as an entree to interaction, as well as a necessary prerequisite to access information or desired materials. This issue of assessing function or motivation in the context of social competence is discussed by Haring (1992).

Response Variation. We use a class of functionally equivalent responses (e.g., wave, smile, head nod, spoken forms) to greet, but the probability of any one form being used on a particular occasion is not equivalent and depends on the currently impinging stimulus conditions. That is, form will vary depending on the greetee (e.g., peer, adult, stranger); proximity (e.g., near or far); environmental conditions (e.g., greetee in car with air conditioning on and windows up); and the amount of time since last greeting (e.g., earlier in day or six months ago). If a friend is driving the car with the windows up, you are likely to wave. However, if your friend is not looking at you, the form of your greeting may change to shouting, "Hey!" Very small changes in context render one or another form more functional and appropriate (i.e., likely to fulfill intent).

Continuum Variables. For those variables that fall along a continuum, teaching the point at which a discriminated response is to occur introduces tremendous ambiguity. For example, how familiar must a greetee be to occasion a greeting? And how does this level of familiarity interact with other variables like proximity, setting, gender, and availability? To the extent that the level of familiarity required to occasion a greeting depends (or is conditional upon) differing values of each of these other variables, the task of teaching flexible and appropriate greetings becomes extremely complex and difficult.

The intuitive analysis described above paints a picture of communicative behavior which is extremely complex in terms of its determinants. Such an analysis is not meant to discourage practitioners; rather, it highlights some variables that may be critical to the assessment process and yet have not often been considered. For example, in recent work at the University of Illinois at Urbana-Champaign, we attempted to teach initiated social greetings to two learners who actively avoided contact with other people. We failed to assess accurately the functional consequences of greetings for these individuals (i.e., the social consequences were not reinforcing and, thus, could not sustain the newly acquired greeting). For them, a better communication goal may have been to teach requesting (of objects, materials, or activities). Requesting would provide the learners with immediate access to desired items, as well as a history of positive experiences with people in the environment who mediate access to these preferred consequences. Such positive interactions may change the learners' responsiveness to others, making greetings an appropriate target.

Determining children's responsiveness to instruction and, thus, deciding when to provide intervention for specific skills have recently been discussed by Olswang, Bain, and Johnson (1992) under the rubric of dynamic assessement. The procedures comprising this assessment "systematically introduce adult guidance to determine if a child's perfomance can be enhanced through instruction" (p. 188). Such guidance is in contrast to that provided in more static norm- and criterion-referenced assessment, where adult input is held to a minimum to evaluate child performance unencumbered by adult influence.

Enhancing Dissemination and Utilization

If we are to improve our strategies of assessing communicative competence, we must be able to respond to a set of pressing concerns related to dissemination and utilization which have plagued the field of communication and language as they have plagued every domain of practice. The concerns can be captured in a set of questions. The responses were developed to serve as a springboard for discussion; they are meant to be neither authoritative nor comprehensive.

1. *What do we really know about communication assessment practices for individuals with severe disabilities?*

a. Assessment has at least three distinct functions. First, it permits screening of individuals for identification and placement purposes. This function is descriptive and has evolved from current bureaucratic policy. It is not prescriptive and does not provide clear direction for intervention. The second function is prescriptive, providing information to facilitate decision-making about intervention. Evaluation is the third function of assessment. By gathering information before, during, and after intervention, one can determine its effects and make decisions about changing the ongoing program.

b. Communication assessment requires a joint focus on the learner (speaker) and the environmental context (including the listener) in which the communicative behavior occurs. The relationship between these two interactants and their dependence upon one another must be recognized.

c. Functional assessment in natural contexts produces representative samples of learner competence untapped by more traditional assessment strategies. By sampling performance in natural contexts, the cues that would ordinarily occasion communication (familiar people and physical settings) are present. Regular social partners may know how to evoke optimal performances. Also, sampling can continue until the assessors obtain the information required for decision-making. The combination of functional and traditional strategies will provide the most comprehensive picture of communicative competence.

d. Communication is an extremely complex event, and we have only begun to recognize and identify this complexity. Perhaps intuitive analyses that facilitate closer scrutiny of what influences our language will enhance efforts to develop more complex models of communication and its assessment.

2. *How can we get what we know into the hands of those who live and work with individuals who have severe disabilities?*

Typical methods have included preservice programs (coursework and supervised practica) at colleges and universities; inservice programs; consultation or collaboration in which one or both parties share expertise or new information with one another; and rules and regulations developed at the local, state, and federal levels. Unfortunately, many of the requisite skills cannot be acquired within the confines of the current formats. (Some may even question our impact on preservice and inservice training priorities and activities, regardless of the fallability of these formats.) Because the target skills often are not informational but, rather, performance-based, they cannot be acquired with a reading assignment or in a lecture/workshop.

What is required is hands-on coaching, including modeling, rehearsal, prompting, and feedback at the site where the assistance is needed, accompanied by follow-up. These methods are labor-intensive and expensive. Preservice programs possess the potential, but the outcomes often are disappointing. Inservicing as it is currently practiced is flawed, because it represents a one-time-only visit. Even when follow-up occurs, it rarely permits the intensity of training required. Consultation suffers from limitations similar to those of inservicing. Finally, rules and regulations are hollow vehicles for the acquisition of performance skills, unless they contain a means of ensuring implementation fidelity, which would require the same type of coaching suggested above.

In many respects, this question is misguided, because it assumes that "we" have the answers and those who live and work with these individuals do not. This assumption is blatantly erroneous. All of the practices described in this paper were either developed or informed by those most familiar with learners who have severe disabilities. This one-way-street perspective must change: Professionals must recognize the substantial, latent contribution represented by those most familiar with the learner, and those most familiar must not look to professionals for all of the answers (they will certainly be disappointed). A collaborative effort is required.

If we are to see assessment practices in the field which actually reflect the practices described in this paper, then a more macro-approach than that alluded to in the paragraph above may be needed. Perhaps the U.S. Department of Education's Severely Handicapped Branch has a potential solution; it currently funds systems-change projects. A systems-change approach requires identification of barriers to the kind of utilization we desire. Aspects of current funding and training policies, administrative arrangements, certification, and service-delivery systems are implicated. For each of these, we should be able to identify specific recommendations that might make an appropriate dissemination effort a reality. Surveying successful systems-change models and identifying their solutions to the barriers above may prove to be a fruitful strategy for affecting change in practices impacting on the communicative competence of individuals with severe disabilities.

3. *What are "best practices," and what is their role in dissemination and utilization?*

Recently, "best practices" has become a commonly used phrase to represent what we, as a field (or a sample of we), believe are practices that reflect current thinking and ought to be disseminated. It is important to consider best practices from a pragmatic perspective, lest we lose sight of what they are and what they offer. Some best practices or components of many best practices are not grounded with empirical evidence. This fact should not discourage their promulgation and dissemination, but it should be held up as a continuing consideration. Those living and working with individuals who experience severe disabilities cannot wait for the data, when they are faced with daily decisions about how to develop programs or how to respond to a currently impinging concern (Meyer, Eichinger, & Park-Lee, 1987). Furthermore, some best practices are driven more by values than by effectiveness (i.e., the practice reflects a value, and the question becomes how to obtain the greatest effect).

Once a practice is identified as a "best" practice, then practitioners and researchers need to determine the obstacles (e.g., policies, resources, old ways of doing things) that stand in the way of adoption and how best to remove these obstacles. Many best practices currently are in this stage. Finally, timeliness and relevance are major concerns when considering best practices. What is best practice today may not be so tomorrow. The field is ever-changing; new ideas and new perspectives are created almost daily. The ephemeral nature of best practice is at once its key strength and key weakness. The strength is born out of the adaptability of the field to change -- a willingness to consider and accept new ideas. The weakness is born out of this same willingness and acceptance. Slavin (1989) characterized the faddism in education innovation by "...its cycle of early enthusiasm, widespread dissemination, subsequent disappointment, and eventual decline..." (p. 752). He suggested that if education is to make "serious generational progress," then we must focus our efforts on ensuring the efficacy of our practices, rather than accepting ones that merely are new or sound good.

4. *How should the many assessment practices available be prioritized? If a communication specialist has only 50 minutes to assess a student, what might be some strategic assessment questions to ask?*

a. What environments are most conducive to communication?

b. Which people are most familiar with the individual?

c. How does the learner access other people?

d. How does the learner indicate preference?

e. How does the learner indicate rejection?

f. Is the environment responsive to communicative attempts?

g. What is the most appropriate response mode to select in light of the physical and cognitive skills of the learner? (Stremel, personal communication, 1992)

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Attachment A

Two Examples of Communication Interviews

Halle et al. (1990).

Communication Interview
Summary Form

Student: ________ Interviewer: ________ Person Summarizing: ________

Dates of interviews: First: ________ Second: ________

Who? ________ Who? ________

KEY:
HOME
SCHOOL

FUNCTION / FORM	MOTORIC	CRY, VOCALIZE	FACIAL EXPRESSION	PHYSICAL CONTACT	GESTURE, POINT	ALTERNA- TIVE	VERBALIZE	ANTECEDENT STIMULI	
								Home	School
Expressive/Receptive Skills									
1. How answers yes/no									
2. How answers other questions									
3. How responds to directions									
6. Other ways to tell things									
Requests									
8. Attention from others									
9. Affection from others									
10. Getting another to join in an activity									
11. Food/Water (interoceptive)									

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FUNCTION / FORM	MOTORIC	CRY, VOCALIZE	FACIAL EXPRESSION	PHYSICAL CONTACT	GESTURE, POINT	ALTERNA- TIVE	VERBALIZE	ANTECEDENT STIMULI	
								Home	School
12. Joining an on-going activity									
13. Help to finish or obtain needed item									
14. Help to obtain desired item									
15. Permission									
16. Clarification									
17. Persisting if request denied									
Rejects/Protests									
18. Protest if other leaves activity									
19. Protest R-activity									
20. Refuse offered food or drink									
21. Stop activity									
22. Refuse to follow directions									
23. Persisting if rejection is not met									
Declarations/Comments									
24. Show something at store									

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COMMUNICATIVE BEHAVIORS

A. MOTORIC BEHAVIORS- Actions that are interpreted by the environment
1. pacing/running 2. manipulating objects/items 3. stopping an activity 4. self-injurious behavior (e.g., hitting, pinching or biting self) 5. complying with a request/direction 6. body rocking 7. jump up and down 8. balk/not comply 9. leave area 10. approaches & stands/sits in proximity of listener(s)

B. CRIES/VOCALIZATIONS- Unintelligible utterances that are not word approximations
1. laughter or giggling 2. cries, whimpers, screams/ tantrum 3. shouting 4. verbal approximations which are unintelligible 5. gurgling sounds 6. other vocal sounds

C. FACIAL EXPRESSION - Suggests expectancy of a response from the listener
1. smiles 2. frowns 3. clenched face 4. grimace 5. expectant looks (e.g., eyebrows raised, steady gaze toward another) 6. sad/pout (e.g., eyes drooped, looking down, mouth turned down, pursed mouth or eyebrows) 7. questioning looks (eyebrows raised, blank stare) 8. frightened or scared expression 9. eyes closed

D. PHYSICAL CONTACT - Any touching or physical manipulation of the listener
1. hugging 2. grabbing &/or holding hand/arm of listener 3. handshakes 4. kiss
5. tapping or touching shoulder or other parts of the listener's body 6. aggression (e.g., pinching, scratching, hitting, kicking, biting, or grabbing) 7. pulling on listener 8. pushing listener away

E. GESTURE/ POINT - Conventional gestures that are used with intent
1. reaching for objects or people 2. pantomime or mimicking others 3. shake head "yes/no" 4. showing items (e.g., holding item and extending toward listener) 5. shrugging shoulders while raising hands 6. waving arms or hands 7. pointing with finger, hand, or arm 8. pushing away/ dropping/ putting down objects

F. ALTERNATIVE FORMAL COMMUNICATION SYSTEMS (AFCS)- Presentation of words or concepts through graphic, electronic, sign-language or other means
1. pictures 2. line drawings 3. word cards 4. one word sign 5. two word sign combination (noun/verb, noun/prep., verb/prep.) 6. electronic equipment (e.g., touch-talkers etc.) 7. objects or object remnans 8. symbols 9. communication board, book or wallet, 10. written
11. fingerspelling

G. VERBALIZE - Any spoken word, word combinations, or word approximations.
1. approximations which are understandable
2. one word utterance (typically noun or verb, or preposition)
3. two or more word utterances (typically noun and verb, noun/preposition, verb/preposition)
4. echolalic utterances relevant to interaction
5. echolalic utterances nonrelevant to interaction

NO - informant has not observed behavior
NR - learner does not exhibit function or behavior described
IA - answer provided by informant can not be interpreted
NA - question not asked by interviewer

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COMMUNICATION INTERVIEW

Student ______________________ School ______________________

Examiner ______________________ Date ______________________

CUE QUESTIONS	Crying	Aggression	Tantrums/Self Injury	Shakes "no"/Nods "yes"	Facial Expression	Passive Gaze	Gaze Shift	Proximity	Gestures/Pointing	Gives Object	Pulling Other's Hand	Touching/Moving Other's Face/Body	Grabs/Reaches	Enactment	Removes Self/Walks Away	Vocalization/Noise	Intonation	Inappropriate Echolalia	Appropriate Echolalia	One-Word Speech	One-Word Signs	Complex Speech	Combined Signs	FUNCTIONS COMMENTS
1 REQUESTS FOR AFFECTION/ INTERACTION What if S wants																								1 REQUESTS FOR AFFECTION/ INTERACTION
adult to sit near?																								
peer to sit near?																								
non hand peer to sit near?																								
adult to look at him?																								
adult to tickle him?																								
to cuddle/embrace?																								
to sit on adult's lap?																								
other																								
2 REQUESTS FOR ADULT ACTION What if S wants																								2 REQUESTS FOR ADULT ACTION
help with dressing?																								
to be read a book?																								
to play ball/a game?																								
to go outside/to store?																								
other																								
4 PROTEST What if																								4 PROTEST
common routine is dropped?																								
favorite toy/food is taken away?																								
taken for ride w/out desire?																								
adult terminates interaction?																								
required to do something doesn't want to do?																								
other																								

COMMUNICATION INTERVIEW

CUE QUESTIONS	Crying	Aggression	Tantrums/Self Injury	Shakes "no"/Nods "yes"	Facial Expression	Passive Gaze	Gaze Shift	Proximity	Gestures/Pointing	Gives Object	Pulling Other's Hand	Touching/Moving Other's Face/Body	Grabs/Reaches	Enactment	Removes Self/Walks Away	Vocalization/Noise	Intonation	Inappropriate Echolalia	Appropriate Echolalia	One-Word Speech	One-Word Signs	Complex Speech	Combined Signs	FUNCTIONS COMMENTS
3 REQUESTS FOR OBJECT, FOOD, OR THINGS What if S wants:																								3 REQUESTS FOR OBJECT, FOOD, OR THINGS
an object out of reach?																								
a door/container opened?																								
a favorite food?																								
music/radio/T V ?																								
keys/toy/book?																								
other																								
5 DECLARATION/ COMMENT What if S wants:																								5 DECLARATION/ COMMENT
to show you something?																								
you to look at something?																								
other																								

Layton, T. L. (Ed.). (1987). Language and Treatment of Autistic and Developmentally Disordered Children, pp. 40-42. Springfield, IL: Charles C. Thomas Publisher.

Attachment B

An Observational Recording Protocol

Direct Observation Of Communicative Behavior

LEARNER:______________ DATE:______________ SETTING:______________ TIME:______________

OBSERVER:__________________ TAPE COUNTER START:______________ STOP:______________

Augmentative																		
Gesture/Point																		
Physical Contact																		
Facial Expression																		
Vocalization/Cries																		
Responds																		
No Response																		
ANTECEDENT-Teacher																		
Peer																		
Parent																		
Sibling																		
Other *********																		
****** busy																		
attending																		
directing																		
questioning																		
commenting																		
other prompts																		
referent present																		
referent absent																		
other																		
FUNCTION - Reject																		
Humor																		
Comment																		
Greet																		
Leave-take																		
Offer Assistance																		
Request ******																		
****** object																		
food																		
action																		
activity																		
attention																		
affection																		
assistance																		
permission																		
information																		
FUNCTION FULFILLED																		
FUNCTION NOT FILLED																		
CONSEQUENCES - Edible																		
Tangible																		
Exchangeable																		
Activity																		
Social																		
Sensory																		
None																		

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SOCIAL INTERACTION OBSERVATION GUIDE

Student: ____________________ Observer: ____________________
Length of Observation: __________ Context: __________ Date: __________

INITIATION SKILLS (e.g. Approaches, Touches, Offers Object, Gestures, Vocalizes, Signs/Speaks, Other)

Description/Context:

RESPONDING SKILLS (e.g. Reorients Toward, Imitates, Complies w/Directives, Gestures, Vocalizes, Signs/Speaks, Other)

Description/Context:

MAINTENANCE SKILLS (e.g. Maintains Proximity (Follows), Imitates, Alternates/Reciprocates (Action), Takes Turns, Offers Objects, Vocalizes, Signs/Speaks, Other)

Description/Context:

TERMINATION SKILLS (e.g. Reorients Away, Moves Away, Gestures, Signs/Speaks, Other)

Description/Context:

LEVEL OF PLAY (e.g. Unoccupied, Isolate, Onlooker, Parallel, Associative, Cooperative)

Description/Context:

Layton, T. L. (Ed.). (1987). Language and Treatment of Autistic and Developmentally Disordered Children, p. 45. Springfield, IL: Charles C. Thomas Publisher.

Attachment C

Structured Protocols for Evoking Specific Communicative Functions

Communicative Functions

Procedures

Targeted Functions: Greeting, Reject (food), Request (food), Comment (event)

Participants: Preferred familiar adult and student

Setting: Classroom at school, at round table by blackboard. No materials present in immediate area except for scenario props

Time: During lunch while room is relatively empty

Materials: Two clear, closed containers, one holding a preferred food item (or for the preferred food - leave in original packaging), the other a non-preferred food item; plastic or metal serving dish, two small, plastic bowls, napkins; Fast-food items (e.g., sandwich, fries, drinks); an empty fast-food sandwich container; A small round sponge (clean) to put in sandwich containers.

……

A FAMILIAR PERSON ESCORTS THE STUDENT TO THE ROOM AND REQUESTS THE STUDENT TO ENTER ALONE.

……

GREETING (Arrival One)

1. A. is busy writing at table	Count 10 S.	If S. responds with a form that is not his/her targeted form, A. jumps to step 6. If S. responds with approp. form, A. goes to next section
2. A. looks up at S. and holds	" 5 S.	
3. A. smiles at S.	" 5 S.	
4. A. waves at S. for 1-2 secs.	" 5 S.	
5. A. waves and says, "Hi" to S	" 5 S.	
*6. A. says, "Say Hi" and models wave	" 5 S.	

REJECT (Food)

A. says, "Let's have a snack. You sit here and I'll get some food," (and assists S., if necessary, to sit at designated position at table).

A. reveals a container holding a nonpreferred food item.

1. A. opens container	Count 5 S.	If S. responds with any form of rejection (e.g., pushes food away, shakes head, whines, etc.) that is not his or her targeted form, A. jumps to A,ii. and prompts targeted form from student. If S. responds with targeted form, A. goes to next scene.
2. A. places small portion of nonpreferred food in S' bowl or on napkin and puts in front of S. (no verbals)	" 5 S.	
3. A. says, "Have some _____"	" 5 S.	
4. A. says, "Do you want some _______?"	" 5 S.	
A) If no response	XXXXXXXX	
i. A. says, "Do you like ______?"	" 5 S.	
*ii. A. says, "Tell me 'no'" and models shaking head	" 5 S.	
iii. A. removes food and goes to next scene	XXXXXXXX XXXXXXXX	
B) If S. accepts food, A. waits for a response. If no response, S. is allowed to eat the food and A. goes to next scenario	XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX	

BEST COPY AVAILABLE

REQUEST (Food)

1. A. places clear container (holding preferred food) in sight of, but out of reach of S.	Count 5 S.	If S. indicates that s/he wants some of the preferred food, but doesn't use his or her targeted form, A. jumps to step 8, and proceeds to step 13
2. A. places a very small portion of food in serving bowl (also out of reach of S.)	" 5 S.	
3. A. places small bowl or napkin in front of self and S.	" 5 S.	
4. A. empties serving bowl into own bowl or on napkin and looks at S.	" 5 S.	If S. responds with the correct form, give him or her some food (but no verbal praise), and proceed to the next scenario.
5. a. eats a bite of food, and looks at S.	" 5 S.	
6. A. finishes serving, and looks at S.	" 5 S.	
7. A. comments, "This is good. You should have some."	" 5 S.	
* 8. A. says, **"Do you want some?"**	" 5 S.	
9. A. passes empty serving bowl to S.	" 5 S.	
10. A. looks in bowl, then at S., and says, "oh, it's empty."	" 5 S.	
11. A points at container, and says, "there is more."	" 5 S.	
12. A. says, "**tell me 'want eat'**" and **models signs**	" 5 S.	
13. A. gives S. a small serving, regardless of response and says, "Here is some if you want it."	" 5 S.	

If S. rejects the food item, repeat the trial with another food item

COMMENT/DECLARATION (One)

While A. and S. are in room eating snack together, someone knocks on the door. It continues while A. completes the following protocol:

1. A. ignores knock	Count 15 S.	If S. indicates awareness of person at door, but doesn't respond with the targeted form, A. jumps to step 4.
2. A. looks at S. with expectant expression (i.e., leans body toward S., and raises eyebrows)	" 5 S.	
3. A. says, "Do you hear something?"	" 5 S.	If S. responds with the targeted form, A. opens door and then proceeds to next scenario.
* 4. A. says, "Tell me someone's at the door" and models pointing at door	" 5 S.	

BEST COPY AVAILABLE

REQUEST FOR ASSISTANCE PROTOCOL

Student: ____________________ School: ____________________
Examiner: ____________________ Date: ____________________

With student seated across from you, demonstrate procedure by opening and eating a piece of the food inside, or if a favorite material is used, playing with it momentarily. Then replace the lid on the container tightly so that student cannot obtain the item without help or hand the toy to the student. Remain passive until conventional request for assistance is made. If there is no response within one minute, repeat demonstration and elaborate as necessary. Check any behavior(s) exhibited each trial.

BEHAVIORS	Context 1:			Context 2:			Context 3:		
Trials:	1	2	3	1	2	3	1	2	3
Vocalizations									
Related Verbalizations									
Unrelated Verbalizations									
Immediate Echolalia									
Context Appropriate Delayed Echolalia									
Context Inappropriate Delayed Echolalia									
Manipulation of Lid									
Box is Moved into Teacher's Hand									
Pulling of Teacher's Hand									
Eye Contact w/Teacher Initiated by Student Gaze Shift: Student Looks at Box, Back to Teacher, Repeatedly									
Student Gestures for Help (Including Pointing)									
Aberrant Behavior (Include Self-Injury, Crying & Whining)									
Signed Request									
Spoken Request (Describe: Direct/Indirect/ Polite/Grammatically Complex/Rudimentary)									
Other Behaviors (Describe):									
1) ____________									
2) ____________									
3) ____________									
4) ____________									

Layton, T. L. (Ed.). (1987). Language and Treatment of Autistic and Developmentally Disordered Children, p. 43. Springfield, IL: Charles C. Thomas Publisher.

Attachment D

Intuitive Analysis of Variables Relevant to Teaching Social Greetings

Intuitive Analysis of Variables Relevant to Teaching Social Greetings

a. Visual Contact	The learner must see or hear the person to be greeted. That is, the presence of another person must be determined through a sensory modality.
b. Inter-response duration	Some amount of time must elapse between greetings. For example, it would be inappropriate to greet your parents upon awakening in the morning and then greet them 10 minutes later. Inter-response duration for greetings, however, is influenced by a change in settings (i.e., greetings become more probable after a shorter time if one partner leaves the setting and returns later). Change in response form is another consideration when a second greeting occurs. For example, one may smile instead of deliver a "full" greeting as a function of having greeted someone earlier in the day.
c. Familiarity	Familiarity is a continuum-based variable -- an almost infinite variation of levels exists. As familiarity increases, the probability of a greeting increases, but this variable may be influenced by regional custom, setting, and gender. For example, a greeter may be more likely to greet a stranger in a small midwestern town than in New York City, or a woman may be more likely to greet another woman than a man when both are only somewhat familiar.
d. Proximity	Like familiarity, as proximity increases, so may the probability of greetings (another continuum variable). Proximity may be influenced by setting and familiarity. For example, one is not likely to greet someone at a distance during a church or temple service, but may do so at a football game or in a park. Also, if one is very familiar with a potential greetee, proximity may not be required, whereas if the potential greetee is a casual acquaintance, proximity may assume greater weight.
e. Availability of greetee	The probability of a greeting is increased if the greetee establishes eye contact with the greeter and is reduced if the greetee is "busy" (e.g., looking away or working on a task). Interrupting a "busy" person may violate a social norm. Availability is a continuum concept with eye contact at one end and a "busy" greetee at the other. This variable, however, is influenced by distance (eye contact may not be discernible) and familiarity (if familiar and well-liked, even a busy greetee may occasion greetings).
f. Ulterior motive	The probability of a greeting increases if the greeter wants information or assistance or wants to share information with a potential greetee. These variables, grouped together as ulterior motives, constitute additional functions of language. Their influence may override that of competing behavior, distance, or lack of familiarity in occasioning a greeting. That is, social practices dictate that often before we make a request of someone, we should greet them. This variable highlights the role of the function of or motivation for greetings and relates to the second criterion for selection of participants. The motivation for delivering greetings is multiply determined. On any particular occasion, social consequences such as attention or maintenance of interaction may be primary, but ulterior motives also may be operating.
g. Positioning of greeter and greetee	All combinations of two levels of positioning may come to affect the probability of greetings: sitting/standing is one level, and stationary/moving is the second. Because this is an irrelevant variable, varying combinations must be represented in training.
h. Setting, gender, and age	The probability of greetings may increase if the setting is considered safe and familiar (e.g., near home or in neighborhood). Furthermore, an increased probability may exist for greeting individuals of the same gender. Gender as a variable may be influenced by familiarity and setting (e.g., woman may be less likely to greet a less familiar male than a less familiar female, especiallly if the setting is also unfamiliar). Age of the greetee may interact with familiarity to influence the response form produced. We will greet a good friend in a different way than we greet his less familiar mother.

Enhancing Curricular Designs

by

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This paper addresses a number of issues related to the involvement of students with severe communication disorders in school curricula.[1] *First, current best practices regarding eligibility for augmentative and alternative communication (AAC) services are addressed. This is followed by discussions concerning where students who use AAC systems should be educated and the types of curricula that should be used with them. Finally, service delivery issues and strategies for enhancing student involvement in curricula are detailed. Suggestions are provided throughout the paper regarding future research and practice needs.*

> Education is a specialized form of communication... Human beings have developed particular times and places in which the scripts of their cultures are to be communicated from one generation to the next. We have come to call the set of practices by which this communication of cultural scripts is accomplished "education." The communication that occurs in educational contexts happens in oral, written, verbal, and nonverbal modes... [Our] role is to facilitate the communication, thus the education, that occurs in the classroom. (Hoskins, 1990, p. 29)

Any discussion of the relationship between augmentative and alternative communication (AAC) services and school curricula must address a number of key issues. These include at least: (a) Who are the students for whom AAC services should be available in schools? (b) Where should these students be taught? (c) What type of curriculum should be used? (d) What are considered to be current "best practices" in the delivery of AAC services and curricula? and, finally, (e) How can curricular involvement be enhanced for students receiving AAC services? These questions will serve as the main topic headings for this paper.

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Who Should Receive AAC Services in Schools?

A review of the history of the AAC field reveals that a variety of decision-making trends has occurred regarding which students are appropriate candidates for AAC services. Initially, AAC assistance was provided primarily to those children who demonstrated chronic expressive communication disorders in the face of relatively strong cognitive and linguistic capabilities. For example, children and adolescents with severe speech disorders due to cerebral palsy were considered to be appropriate candidates for AAC services during this time, if they demonstrated relatively intact cognitive and language skills.

On the other hand, there was a tendency during the early years not to provide AAC systems to persons for whom speech remained a viable option. For example, children with developmental apraxia of speech or children with autism were often excluded from services, because of the hope that their phonologic abilities might eventually improve through maturation and/or direct instruction. There was the assumption (or fear) that if these children were given AAC systems, they might not exert the effort required to become natural speakers (see Silverman, 1989, for a summary of these concerns and of anecdotal studies that refute them). There was also a strong bias against providing AAC services to persons with cognitive limitations that were developmental in nature. Many of these individuals had severe expressive communication problems secondary to mental retardation, autism, congenital dual sensory impairments, or multiple handicaps; their cognitive and linguistic limitations were taken as evidence that they were not appropriate candidates for AAC services. For a period of time, this thinking was so predominant that the service delivery guidelines adopted by local educational agencies often required specific criteria related to cognitive or linguistic performance to be met (e.g., evidence of functioning commensurate with Piaget's sensorimotor stage 5 or beyond) before an individual was considered an appropriate AAC candidate (see Chapman & Miller, 1980; Owens & House, 1984; Shane & Bashir, 1980). Alternatively, many agencies adopted various "discrepancy formulae" to determine whether or not a sufficiently significant discrepancy existed between a student's language abilities and either chronological age or an index of general potential, such as mental age. These eligibility criteria and discrepancy formulae effectively excluded most individuals with severe and profound intellectual disabilities from receiving AAC services.

In 1989, a report issued by the Committee on Language Learning Disorders of the American Speech-Language-Hearing Association summarized the existing research evidence regarding the use of discrepancy formulae and other practices

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commonly used to determine eligibility for communication services in general. This report concluded that these practices "should not dictate whether or not... speech-language services are warranted" (p. 115) and stated that "eligibility decisions should be based on the individual needs of the child" (p. 118).

Still, these practices persist in many parts of the country, perpetuated in part by continuing endorsements (e.g., Love, 1992) which state that they constitute well-conceived protocols to facilitate decision-making. However, numerous authors in recent years have summarized the literature with regard to various criteria that have been used to determine AAC candidacy in the past and have concluded that there is no empirical evidence in support of these criteria (e.g., Kangas & Lloyd, 1988; Mirenda, Iacono, & Williams, 1990; Reichle & Karlan,1985; Romski & Sevcik, 1988). Thus, it is fair to say that the use of exclusionary criteria for the delivery of communication services is a practice that is outdated and indefensible, based on the available literature.

Given the practices described above, the following recommendation can be offered concerning who should receive AAC services:

Recommendation #1:

All students with severe communication disorders that prevent them from meeting their daily communication needs through natural speech or writing techniques should be considered candidates who might benefit from AAC intervention. This includes students with physical, sensory, and/or intellectual disabilities, such as those with autism, dual sensory impairments, and severe/profound mental retardation.

Where Should Students Who Receive AAC Services Be Taught?

In response to both legal and social pressures, the educational environments that are considered to be appropriate for children with severe communication disorders have changed rather dramatically in the past 10 years. Increasingly, the "least restrictive environment" for these students has come to mean the regular classroom setting, for at least a substantial portion of each school day. In addition, for students who have difficulty generalizing new skills across environments or activities, various community environments may be appropriate settings for instruction (Calculator, 1988; Calculator & Jorgensen, 1991). Since participation in regular classroom and community settings requires extensive communication of many kinds, effective AAC systems that are age- and context-appropriate are critical tools for school success. This applies to students across the ability range, regardless of the severity of their communication disorders.

Beukelman and Mirenda (1992) identified two levels of regular classroom integration that can be considered for students with AAC needs. The term *integration* is used in this context to refer to the physical presence of a student in a regular classroom attended by similar-aged peers. In some cases, physical integration is all that is needed for social and curricular advantages to accrue; however, in most cases, the mere physical presence of students with AAC needs in regular classrooms is quite insufficient to ensure classroom participation. Thus, integration as defined by Beukelman and Mirenda (1992) is necessary but not sufficient for regular classroom participation.

Calculator and Jorgensen (1992) have delineated various obstacles and possible strategies for resolving common problems that can arise when school personnel attempt to include students with severe disabilities in regular classrooms. Their technical assistance model offers suggestions for teacher training, changes in service delivery, and so forth. Some students are *fully integrated* into regular classroom settings. This means that they are physically present in the same classroom(s) attended by their same-age peers during the entire school day. Thus, they, their classmates, and the regular class teacher all consider them to be "part of the class." *Selective integration* into regular classrooms is another option that may be appropriate in some situations, depending on a student's individual academic or social needs. For example, we know of high school students with severe disabilities who choose to spend one or two periods of their school day receiving remedial literacy instruction in a resource room setting, rather than attending study hall, music, art, or other "regular" elective classes. Alternatively, many students with severe intellectual disabilities spend considerable amounts of school time in community settings in which they receive vocational, recreation/leisure, or other instruction appropriate to their long-term needs. During the remainder of the school day, these selectively integrated students participate at various levels in the regular school curriculum. Finally, another option for selectively integrated students is to spend some time engaged in physical therapy or other types of specific skill training outside of the regular classroom for a small portion of the school day. Thus:

Recommendation #2:

The point of departure of all discussions related to educational placement of students with severe disabilities should be a regular classroom within the student's neighborhood school. Full integration in the regular classroom should be the goal, unless specific educational priorities make selective integration an appropriate alternative. Related services (e.g., speech-language therapy, physical therapy, occupational therapy, therapeutic recreation, and so forth) should be conceptualized as supports for students in these settings and, thus, should be integrated within classrooms to the greatest extent possible (Calculator & Jorgensen, 1992).

What Type of Curriculum Should Be Used?

One of the primary reasons for including students with severe communication disorders in regular classrooms is to make available to them the educational and social benefits of involvement in the school curriculum. In its broadest application, the curriculum encompasses expectations of students at a given grade level. As such, it not only refers to academic goals but also to classroom demeanor, compliance with both overt and covert social rules that exist in various settings around the school, selection of textbooks and other instructional materials, teaching techniques, world knowledge, and so forth.

In this paper, the term *curriculum* is used to refer to the "subjects, specific subject matter, and the processes that are both planned and used to implement instruction of the content" (Choate, Enright, Miller, Poteet, & Rakes, 1992, p. 23). Generally, school curricula are codified in curriculum guides developed by state or regional departments of education or by local school systems. These guides usually contain statements of philosophy, objectives for each grade level, the scope and sequence of concepts to be taught annually in each subject area, and suggestions for instruction. In general, curriculum guides are used by teachers to ensure that the skills and concepts they teach build upon those taught in previous grades. In addition, curriculum guides are meant to ensure that, by the time students graduate, they will have learned the skills deemed necessary for success in adulthood. Similarly, curricula for students with severe communication and other impairments are usually designed with the intention of preparing students to participate in a variety of integrated community environments upon graduation (York & Vandercook, 1991).

Several negative consequences are likely to accrue if students with severe communication disorders are not involved in some way in the curriculum of the school through inclusion in regular classrooms (Beukelman & Mirenda, 1992). First, when students "fall out of the curriculum," teachers (often, special educators) are required to develop personalized curricula to meet their needs. The content of these curricula is often delivered either in segregated settings (e.g., resource rooms or special education classrooms) or in regular classrooms during activities that are parallel to but not the same as those experienced by other students. Early failure to be involved in the regular curriculum often results in students receiving totally personalized curricula for the duration of their public school experiences. While this may not be problematic in theory, the reality is that a personalized curriculum often lacks continuity, because its content may depend on the preferences and philosophies of individual educational staff. Therefore, the curriculum may change dramatically with the arrival of each new teacher or speech-language pathologist. Furthermore, inadequate longitudinal management of a personalized curriculum over the years usually results in a splintered educational program that is replete with gaps, redundancies, and oversights. Goldstein (1986) referred to this as a "patchwork quilt of learnings" (p. 221) in which students are exposed to instruction that is neither systematic nor cumulative from year to year. In contrast, the regular curriculum provides an overall program structure for educational staff, which, at a minimum, encourages an orderly scope and sequence of instruction.

Second, failure to be involved in the regular curriculum appears to reduce available peer pressure and support. When children with disabilities are in regular classroom environments, they are subject to this pressure as much as their nondisabled classmates and often respond with a desire to learn what their peers are learning. They are also encouraged to participate in activities in a manner similar to that of the other students, so that they don't "stand out" from their peers. On the other hand, when a student is involved in a personalized curriculum in which no other students participate, such opportunities for peer pressure and support may be compromised. When a child is "out of the curriculum," it is essential that teachers and classmates be aware of their expectations for this student in the context of everyday instruction. Encouragement should come from multiple sources so that teacher and classmate expectations match the student's abilities. In addition, when the goals of these students diverge from classmates, they should be perceived as different rather than deficient. Successes should be evaluated relative to individualized expectations, rather than classroom norms.

Third, failure to be involved in a regular curriculum diminishes opportunities for peer interaction and instruction. Even if a student with disabilities is physically located in a regular classroom, the number of opportunities for social and academic involvement with other students may be reduced if he or she is continuously involved in a personalized curriculum. In addition, opportunities for peer instruction in either direction (i.e., disabled tutor-regular peer or regular tutor-disabled peer) are virtually eliminated.

Fourth, lack of participation in the regular curriculum may shape students' negative perceptions of themselves, in addition to those of their classmates, teachers, and/or family members. On the other hand, when students are involved successfully in regular classroom curricular experiences, they begin to see themselves as able and active in the same arena as their nondisabled peers. For example, Olivia is a teenager with multiple disabilities who was labelled profoundly disabled and placed in an educational program for other students with similar labels until this past school year. She rarely interacted with others, slept during most of the school day, and had no consistent communication signals except crying to indicate distress. During the past year, she has been included in a number of regular classes with her nondisabled high school peers. She now stays alert and awake during the majority of the school day, frequently smiles and vocalizes to greet her friends, uses a microswitch to operate kitchen and sewing appliances during home economics class, and enjoys participating in various sensory and movement activities during music, pottery, and physical education classes. As her interactions with her peers have increased in

]both quality and quantity, Olivia's level of alertness, nonsymbolic communication abilities, and enjoyment of daily activities have also changed dramatically.

Thus, in regards to the type of curriculum that should be used:

Recommendation #3:

The regular education curriculum should serve as the basis for educational goal-setting and longitudinal planning for all students.

What Are Current "Best Practices" For Delivery Of AAC Services And Curricula?

The shift from a "special curriculum for each student" model to an "inclusive curriculum for all students" model necessitates, among other things, a reconceptualization of professional roles and practices related to communication. As Stainback, Stainback, Courtnage, and Jaben (1985) note:

> In order to foster change in regular education, [professionals] need to reduce their current emphasis on classifying, labeling, and offering "special" programs for students who do not fit within the present regular education structure. Instead, they should put more emphasis on joining with regular educators to work for a reorganization of or modifications in the structure of regular education itself so that the needs of a wider range of students can be met within the mainstream of regular education. (p. 148)

As a first step in guiding this reconceptualization, Calculator (1991) assembled a preliminary list of 22 practices, 14 of which were felt to reflect best practices and 8 of which were intended to contradict best practices. Items were based on a comprehensive review of the empirical and values-based literature. Each practice was then rated by an expert panel of 28 judges. Thirteen judges were members of the Related Services Subcommittee of The Association for Persons with Severe Handicaps (TASH), and 15 judges were members of the editorial board of the *Augmentative and Alternative Communication* (AAC) journal. Respondents rated the extent to which they felt each item reflected best practices in providing AAC instruction to elementary school-aged children with severe disabilities who are in regular classrooms. A Likert-type scale, ranging from 1 (strongly agree) to 5 (strongly disagree), with an additional "don't know" category, was used by the raters. It was determined a priori that items receiving scores in the 1.00-2.49 range (by each group of raters, as well as the mean of the two groups' ratings) would be validated as best practices, whereas those receiving scores between 3.51-5.00 would suggest violations of best practices. Results indicated that all 14 preconceived best practices were evaluated as such by the raters. The actual means of the two groups' responses to these items ranged from 1.00 to 1.57. Of the 8 principles conceived to violate best practices, 4 were evaluated as such (by individual groups, as well as in the overall mean of the two groups' ratings). Actual means of the two groups' responses to these items ranged from 4.08-4.57.

In the sections that follow, the 18 practices that were and were not deemed consistent with best practices are discussed. The remaining four statements, which were rated in the neutral range, are not addressed further.

Assessment and Evaluation

Communication assessment involves those processes by which information is gathered and analyzed so that persons who use AAC systems and those who assist them can make informed decisions about what and how to teach throughout the intervention process. Once the intervention has been implemented, some type of evaluation process can be used to measure: (a) the extent to which specific communication goals have been met, and (b) the extent to which newly acquired skills enhance students' inclusion in classrooms and other settings. Here, it is critical to remember that a primary purpose of communication instruction is to enhance students' interaction skills in educational and educationally-related settings. Evidence of changes in communication skills that have no impact on everyday performance may be of questionable significance.

Basically, there are two types of assessment and evaluation processes that can be used in this regard. One involves the use of formal or standardized measures to determine both goals and progress, while the other involves the use of informal or naturalistic measures for assessment and evaluation. In Calculator's (1991) survey, respondents strongly *disagreed* with the following statements related to the use of formal assessment and evaluation measures:

> Communication objectives [should be] based primarily on the results of formal assessment (i.e., standardized tests of language). (Mean rating = 4.57)

> The child's progress in communication [should be] evaluated by comparing the results of formal, standardized testing administered at the end of the year to that obtained earlier in the year. (Mean rating = 4.40)

On the other hand, respondents strongly *agreed* with a statement that referred to the functional nature of assessment:

> Communication goals [should be] individualized for each particular child, based on an assessment of each child's abilities to meet daily communication demands. (Mean rating = 1.16)

In terms of the "best practices" for AAC assessment and evaluation, this last statement implies that several related components should be considered. First, determinations regarding the "daily communication demands" made of the child should be gathered through observations, interviews, environmental inventories, and other strategies. This might involve, for example, observing nondisabled peers as they interact in a variety of classroom or community settings, and recording what the communicative expectations are in those settings (see Beukelman & Mirenda, 1992; Calculator & Jorgensen, 1991; Halle, this volume; and Reichle, York, & Sigafoos, 1991). Second, decisions about how the child can best meet the communication demands of the classroom should be made on an individual basis. This means that there is no "best" AAC device, symbol set, access technique, or approach that is appropriate for all children; rather, a wide variety of options must be considered, depending on the unique characteristics and needs of the child. Finally, the goals of communication intervention should also be individualized to suit the demands made by the classroom and/or community-referenced curriculum. In the broadest sense, this means that the overall goal of an AAC intervention is to assist individuals with severe communication disorders to become communicatively competent today, in order to meet their current communication needs, and to prepare them to be communicatively competent tomorrow, in order to meet their future communication needs.

Thus, the following recommendation can be offered about assessment and evaluation practices:

Recommendation #4:

Communication goals should be individualized for each particular child, based on a functional assessment of each child's abilities to meet the daily communication demands of home, school, and community settings.

Social Curricula and Instructional Practices

A number of "best practice" curricular and instructional components related to communication for social interaction were identified by the respondents to Calculator's (1991) survey. Respondents *agreed* that:

> Communication goals [should] emphasize enhancing students' abilities to interact with their nondisabled classmates. (Mean rating = 1.14)
>
> Parents [should be] offered assistance regarding methods of enhancing interactions with their child at home. (Mean rating = 1.23)

It appears from these statements that AAC "best practices" legitimately include interventions that are designed primarily to increase students' ability to interact and converse with their peers and family members. Inclusion of a primarily social component of communication programming acknowledges that school involves more than just academic learning and that all curricular and extracurricular activities occur within social contexts. The parents of regular students show evidence of their awareness of the dual purpose of school when they request that their child be assigned to the same classroom as a friend or to a specific teacher who encourages social development.

Beukelman and Mirenda (1992) identified three levels of social participation that can be considered when designing social curricula for students with AAC needs. One option is that students be *socially competitive*. This means that they are active participants in a social group of peers. They are involved in the activities of the group, at least to the extent that they make choices about whether or not to engage in activities, and they exert influence over group decisions. For example, a socially competitive student might initiate activities such as backyard camp-outs or birthday parties on occasion and, in turn, is invited by other group members to similar types of activities. Typically, the student who is competitive in this area plays, visits, "hangs out," or otherwise interacts with his or her classmates after school hours (e.g., on weekends or in the evening).

Not all regular students or students with disabilities are socially competitive in all contexts. However, many are *socially active*, in that they make choices about and are involved in social activities, although they may not exert much influence over the social climate of a group and/or its interaction patterns. (Some readers will be able to apply this designation to themselves when they were children, because they were "shy" or "studious" students who were not socially isolated but did not have a wide circle of friends.) Often, socially active students spend more time alone after school hours than do their competitive counterparts, though they may have some opportunities for interaction with nondisabled peers. Students may be socially active in some areas and either competitive or involved in others.

Another option that may be considered for some students is *social involvement*. Socially involved students attend class with their regular peers and may be involved in some extracurricular activities as well. However, they do not influence social situations and often are involved in social activities as passive observers. Rarely do students who are socially involved in school maintain contact with their peers after school hours. They may spend their evenings and weekends engaged in activities primarily with family members rather than friends.

In addition to these options, some students, particularly those who have limited access to their nondisabled peers during school hours, have no social involvement and no opportunities to form friendships or make acquaintances. In terms of "best practices," this was considered to be problematic by Calculator's (1991) respondents, as reflected in their *endorsement* of the following statement:

> The communication program [should] include specific procedures by which teachers and others can increase the number of opportunities the child has to interact with nondisabled people. (Mean rating = 1.11)

Calculator and Jorgensen (1992) discuss methods of engineering classroom environments to promote friendships among students. They describe the Circle of Friends approach (Forest & Lusthaus, 1989) by which existing relationships among students can be delineated, and they present a rationale for incorporating the development of relationships into the curricula of these students. A number of other approaches have also been used to facilitate friendships between persons with severe disabilities and their peers, including Personal Futures Planning (Mount, 1987; Mount & Zwernik, 1988) and the McGill Action Planning System (MAPS) (Vandercook, York, & Forest, 1989). All of these models are based on the principle that collaborative efforts by family members, friends, and service providers are necessary if meaningful social relationships are to be available to individuals with disabilities (O'Brien & Lyle, 1987). In addition, the use of students as collaborators in the delivery of both social and academic curricula in regular classrooms is becoming increasingly acknowledged as a critical strategy for success (Villa & Thousand, 1992). For example, strategies such as "augmented language learning," in which communication partners incorporate AAC symbols and techniques into their ongoing social interactions with AAC users, can be readily taught to and used by nondisabled students in integrated settings (see Romski & Sevcik, 1992, 1993).

Thus, in regards to social curricula and instructional practices, the following recommendation can be made:

Recommendation #5:

The communication program should include specific procedures by which teachers and others can increase the number of opportunities the child has to interact with nondisabled people. Communication goals should emphasize enhancing the student's ability to interact with his or her nondisabled classmates. In addition, parents should be offered assistance regarding methods of enhancing interactions with their child at home.

Academic Curricula and Instructional Practices

In the past, communication services were delivered primarily by speech-language pathologists in separate instructional sessions conducted in special "speech therapy" rooms on a scheduled basis. Today, "best practice" requires that such services be delivered primarily in natural contexts, such as regular classroom and community settings, by a variety of professionals who have been taught (perhaps by the speech-language pathologist) how to best support communication throughout the day. This philosophy was reflected by the *negative* response of Calculator's (1991) respondents to the following two statements:

> The weekly schedule [should] include units of time to work on communication (e.g., three units per week for a total of 1.5 hours of direct service). (Mean rating = 4.08)
>
> The majority of communication goals [should be] carried out directly by a speech-language pathologist. (Mean rating = 4.3).

In contrast, six of the "best practice" statements endorsed in Calculator's (1991) survey referred to the use of natural contexts and functional goals for communication interventions. The respondents *agreed* that:

> Communication instruction [should be] provided in the context of naturally occurring activities (e.g., art, music, reading, recess) and daily routines (e.g., toileting, moving from one activity to another) in the classroom and other community settings. (Mean rating = 1.00)
>
> Communication objectives [should be] addressed systematically throughout the day, by a variety of instructors, in conjunction with ongoing activities such as snack, reading, art, music, and science. (Mean rating = 1.12)
>
> Communication skills taught [should be] highly functional (i.e., the student's acquisition of the skill will permit participation in, and access to, events and activities which otherwise would require a partner's providing for him/her). (Mean rating = 1.11)
>
> Communication goals [should] often take the form of opportunities for the student to make choices or indicate preferences, in the context of everyday activities and routines. (Mean rating = 1.57)

> Teachers and other classroom staff [should be] taught specific strategies related to how to use natural routines and activities to promote their child's communication development. (Mean rating = 1.05)

> A primary purpose of adaptive equipment (e.g., communication boards, computers, electronic communication aids) [should be] to provide a means by which the child can more effectively participate and be included in school activities. (Mean rating = 1.36)

These statements apply to communication interventions across the age and ability range. For some students, functional communication goals might be related to the acquisition of age-appropriate curricular content (e.g., reading, math, etc.). Functional goals might also involve learning to operate a communication device efficiently or learning to make choices, express preferences, initiate interactions, and ask for assistance. These determinations must be made on an individual basis, and student and family preferences regarding educational priorities should be accommodated to the maximum extent possible.

Many of the planning models mentioned previously, such as the Personal Futures Planning and MAPS processes, can be used by the educational team to make decisions about students' academic participation. Beukelman and Mirenda (1992) defined three levels of academic participation in the regular curriculum which can be considered for students with severe communication disorders. The first of these, *academically competitive participation*, requires that a student with AAC needs meet the same academic standards that are expected of the regular peers. However, this does not necessarily mean that all of the activities completed by peers will be completed by the student with disabilities to the same degree. For example, students with AAC systems often cannot write as rapidly as their peers; therefore, the amount of "seat-work" they are expected to complete may be reduced, as long as the same academic standards are met. Or some students may choose to reduce their overall academic workloads in order to meet the requirements of classes in which they are competitive.

It is important to note that students may be competitive in one, several, or all areas of the curriculum. Thus, an elementary-aged child may be competitive in math, reading, music, and art, while meeting somewhat lower expectations in other areas. The exact balance of academic participation should be determined on an individual basis.

The expectation of competitive, academic participation requires that families, teachers, and speech-language pathologists coordinate their efforts so that the student can be maximally efficient. Sometimes, there is insufficient time to develop and monitor an adapted or remedial curriculum in which educational specialists introduce content or requirements that are different from those of the regular classroom. Instead, when competitive participation is expected, educational specialists must, of necessity, act as consultants to regular classroom teachers, so that all school activities contribute to the overall educational goal. In short, the goal of competitive participation is to expect certain standards while modifying activities and workloads as appropriate, not to modify standards while expecting the same quantity of work as produced by peers.

Not all students with AAC systems can be academically competitive in all areas. However, many students can be *academically active*, in that they are capable of participating in and learning from the regular curriculum, although they cannot meet the same academic standards as their peers. Maintaining these students as active participants in regular classrooms allows them to experience many of the benefits of integration, such as exposure to a structured educational sequence, peer social contact, and peer support in instruction. Meanwhile, agreements among educational staff and parents regarding students' "active" status can reduce the pressures of competitive expectations and the negative experiences that may accumulate as a result.

As noted previously, many students with AAC systems will be competitive in some academic areas and active in others. Alternatively, some students may be active in all areas and competitive in none; yet, they are expected to participate in the curriculum at some level, to be involved with and learn at least part of the same academic content as other students, and to be evaluated according to their individual goals. It is not uncommon that, in certain areas such as math or reading, an active student may receive special supplementary instruction focused on the development of particular skills. In addition, depending on the academic expectations, the focus of the curriculum may shift for some active students from an academic to a community-referenced orientation as they progress through school.

Together with their educational teams and parents, some students may decide that participation in certain academic areas will be limited to *academic involvement*, rather than competitive or active participation. In this case, the student attends the regular class activities along with peer students but is less active as a participant. For example, some students who are unable to speak or sing may enjoy being involved in the school choir. Because of their disabilities, they are not expected to be competitive or active on a routine basis; yet, they like music, the music teacher is fun to be around, the social atmosphere of the choir is very positive, and the students can benefit in a number of ways from the experience.

It is important to emphasize that involvement should not be limited to "elective" areas such as music and art. In many cases, perhaps because of the social atmosphere of a classroom or a student's interest in a subject area, involvement is desirable even though academic participation is expected to be minimal. For example, we know of one selectively integrated junior high school student with autism who was involved in regular social studies, English, shop (e.g., woodworking), and health classes during one school year, in addition to receiving instruction in a variety of community settings. Some of the regular classes were of special interest to him (e.g., woodworking and health), while others were offered because the teachers were known to be accepting of students with special needs, regardless of their level of participation. It is important to note, however, that in none of these classes was the student a passive observer with no involvement whatsoever.

Achieving academic involvement in regular classrooms for students who experience decreased levels of responsiveness or who require continuous nursing supervision because of ventilator dependency, seizures, or other medical conditions can be particularly challenging. Calculator and Jorgensen's (1991) article "Integrating AAC Instruction into Regular Education Settings" provides teams with a mechanism by which specific learning objectives for such students can be extracted from classroom activities. Opportunities for expanded participation can be identified, along with the types of support needed (staff, instruction modifications, and so forth). For example, the educational goals for Shameel, a first grader with profound disabilities and numerous medical and physical problems, included remaining awake and alert while his friends read him a story during language arts, increasing his ability to grasp and release the objects used for counting and sorting during math lessons, and decreasing his tactile sensitivity through involvement with various media (clay, finger paints, etc.) during art class. When his peers inadvertently blocked his ability to see an ongoing activity, Shameel learned to vocalize for attention and then shake his body to say "move out of my way."

As educators, we must be accountable to students, their families, and the public at large that we are providing educationally relevant instruction. Teachers should never find themselves wondering why a student is present in the classroom at a particular time of the day or why a student is involved in ways that may not contribute to positive learning outcomes. Students with disabilities, like their peers, require that expectations be made of them and that "dead time" -- time during which opportunities for learning are absent -- is held to a minimum.

Thus, in regards to academic curricula and instructional practices, the following recommendation can be made:

Recommendation #6:

Functional, systematic communication instruction should be provided by a variety of instructional and support staff in the context of regular curricular activities in classroom and other community settings. Communication devices and other adaptive equipment should be used as a means to achieve academic participation and communication goals, not as ends in themselves.

Professional Roles

The final area surveyed by Calculator (1991) referred to the roles of various professional members of the team involved with a student with severe communication disorders. These team members often include both regular and special educators, a speech-language pathologist, occupational and/or physical therapists, and classroom aides. In addition, parents and the student in question should always be included on the team.

As noted previously, current "best practices" do not entail the delivery of communication instruction solely by speech-language pathologists. Rather, a coordinated team approach is deemed more acceptable, as reflected in respondents' *agreement* with these "best practice" statements:

> Staff [should] have a clear understanding of their respective roles in promoting the child's communication development. (Mean rating = 1.29)
>
> Possible communication objectives [should be] identified by a variety of team members (e.g., speech-language pathologists, parents, teachers, and classroom aides). (Mean rating = 1.15)
>
> The speech-language pathologist [should] provide others (e.g., parents, teachers, classroom aides, classmates) with information regarding how to modify their style of communication in order to enhance the likelihood that the child will understand them (e.g., simpler and more redundant messages; the use of augmentative modes of communication such as gestures and pictures) in everyday interactions. (Mean rating = 1.47)
>
> The speech-language pathologist [should] assist the classroom teacher in integrating communication instruction into his/her daily lessons. (Mean rating= 1.23)

Implicit in these statements is the notion that students with severe communication disorders who participate in regular curricula -- be they competitive, active, or involved participants -- will often require some level of assistance in order to meet the communication demands of the classroom. Beukelman and Mirenda (1992) defined three levels of independence that might be considered in this regard. Some students may be *fully independent* in at least some activities, so that they are able to participate without any human assistance at all. However, many students who use AAC systems or devices may be *independent with set-up assistance* to organize their work environments, turn on or move adaptive equipment, or change their positions in the classroom. After these set-up activities are completed, they can then be independent. Finally, some students will need to be *fully assisted* in order to participate in regular classrooms. It is important to note that the teacher is not the only available source of such assistance; indeed, perhaps the primary (and most underutilized) source is the regular classroom peer group. It is important to emphasize again that neither full independence, nor academic competitiveness, nor social competitiveness are appropriate "prerequisites" to regular classroom integration for students with severe communication disorders.

Thus, in regards to professional roles:

Recommendation #7:

Communication goals should be identified by consensus of the entire team (parents, student, and professionals). The speech-language pathologist and other special education staff should assist the regular classroom teacher and the student in achieving the desired level of participation and independence in the classroom.

How Can Curricular Involvement Be Enhanced?

In order to enhance the involvement of students with severe communication disorders in the curriculum of the school, the professionals involved in planning and executing their educational programs may need to institute adaptive strategies in a number of areas (see, for example, Dutton & Dutton, 1990; Falvey, Coots, Bishop, & Grenot-Scheyer, 1989; and Stainback & Stainback, 1992). These include strategies designed to adapt the classroom environment, assist students to be active learners, and help students manage the academic workload. These will be discussed briefly in the sections that follow.

Adapting the Classroom Environment

In some instances, adjustments to the physical environment may be necessary to enhance a student's curricular involvement within a classroom. For example, it is not uncommon for students in wheelchairs to be positioned off to the side or at the back of a room, because their chairs make it difficult for others to get around them. However, creating wider aisles between student desks and other classroom furnishings is a preferable strategy for solving this problem, since it allows the AAC user to stay with the group instead of remaining on the periphery. Widened doors that are adapted with special "open" buttons or "electric eyes" allow for easy entrance into the classroom and throughout other areas of the building, such as the music room, gymnasium, and cafeteria. Students' working surfaces should be positioned at appropriate heights for comfort and efficiency; this can be done through the use of adjustable desks and tables. Cut-out desktops may also be necessary so that there is a suitable distance between students and their working surfaces. Chalkboards located at lower levels than usual and extended slightly outward from walls allow students in wheelchairs to position themselves appropriately for writing activities. Other items, such as doorknobs, pencil sharpeners, coat racks, and light switches can also be lowered to accessible heights. Finally, classroom assignments should be made after considerations of the accessibility needs of students, since, in most schools, some regular classrooms may be more accessible than others.

Assisting Students to be Active Learners

Because the communication content in regular classrooms changes so rapidly, it is often difficult to keep the vocabulary in the student's AAC system current. Because of this, there is a tendency to provide students with communication systems that are solely designed to address wants/needs and social interaction functions. However, the language of the classroom is not the same as the language of home or social settings. Children talk in school primarily with relatively unfamiliar adults in order to build a theory of reality, share their understanding of actions and situations, and acquire knowledge (Westby, 1985). While few investigations have documented in detail the vocabulary use patterns of children or adults at home and in school, one exception is the work of Marvin, Beukelman, and Vanderhoof (1991). These authors recorded the vocabulary spoken by five preschool-aged nondisabled children in these two settings. They reported that approximately one-third of the words produced by these children were spoken only at school, one-third were spoken only at home, and one-third were spoken both at home and school.

One would also expect that differences across specific school environments might also have dramatic effects on the words communicated in classrooms. For example, the content of elementary and secondary school curricula in various subject areas requires access to vocabulary items that may change as often as daily or weekly, in some cases. As the topic in a student's science unit shifts from plants, to planets, to prehistoric animals, and to rocks, the extent to which the student can communicate successfully in the classroom will largely depend on the availability of appropriate vocabulary. The vocabulary set designed to support a student's conversational interactions, which are relatively stable and predictable in most cases, is unlikely to be useful in meeting such frequently changing curricular communication needs. When the vocabulary provided for classroom participation is inadequate, students who use AAC systems are often forced to rely on other strategies to avail them of alternate means of participation (e.g., 20 questions, cloze procedures, etc.). Otherwise, they will be passive learners, unable to ask or answer questions in class, deliver topical reports, or otherwise participate in subject-oriented discussions, because they do not have the vocabularies to do so. Thus, it is critical that the professional team be quite aggressive in attempting to translate the curriculum into communication units that will allow the AAC user to participate in these classroom interactions. This is particularly critical during the early elementary years, before students are able to spell well enough to compose their own messages.

Assisting Students to Manage Time Constraints

Students with severe communication and/or motor impairments often find it difficult to maintain the pace of a regular education classroom, because they have difficulty manipulating educational materials such as books, worksheets, and so on. Unless adjustments are made in response to these difficulties, students may experience academic failure because they cannot complete their work, even though they have mastered the content. Several approaches are often used to accommodate the time constraints of students with disabilities.

Advance preparation. In many cases, it will be necessary to work with regular education staff in order to "preview" upcoming assignments, topic areas, and class projects, so that ample time is available to create related adaptations. For example, if the AAC support team knows that science units over the next two months will include "planets," "rocks," and "dinosaurs," they can begin to construct related communication miniboards or plan how to program the needed vocabulary words into an electronic AAC device. In addition, students can be encouraged to use strategies such as preparing questions in advance or composing answers to assigned questions overnight, in order to compensate for their reduced communication rates. For example, Jalisa, a student with multiple disabilities, was involved in a unit on "sex education" during a "teen living" class. Although she was not able to grasp much of the class material, she clearly understood at least some of the discussion related to "dating etiquette." She managed to convey to her special education teacher that she had some questions in this regard. Prior to class, the teacher recorded Jalisa's questions on a cassette tape, which Jalisa then activated in class, using a single switch. This technique was also used when Jalisa was assigned class reports in a cooperative learning group; she worked with her classmates after school to prepare the report, and they recorded it on tape. Jalisa was then responsible for playing the taped report the next day in class. Such advanced preparation strategies allow students with AAC systems to be active participants in the regular curriculum, without requiring teachers and peers to wait for lengthy periods of time while they compose messages or questions.

Using peer instruction. The incorporation of cooperative or peer instruction is becoming increasingly common in regular education (Gartner & Lipsky, 1990; Sapon-Shevin, 1990; Villa & Thousand, 1992). Applying these approaches to students who use AAC systems can be very effective in helping them to meet the time demands of the classroom. In addition, when students with disabilities are included in small cooperative learning or informal peer instructional groups, they are often able to participate more effectively than they can in large classroom situations. In junior and senior high school, students can also be enlisted to take in-class notes for academically competitive students with disabilities. This can be managed by having their regular notes photocopied or by having them use carbon paper between the pages of their notebooks so that two copies are made automatically.

Adapting academic testing. It is usually difficult for competitive or active students with disabilities to complete academic tests in the same amount of time as their nondisabled peers. If adjustments in time constraints are not made, these students either end up being penalized for their disabilities or relying on the assistance of a classroom aide to complete tests in the time allotted. The former scenario is clearly unacceptable; the latter often leaves the teacher wondering who is really taking the test, the student or the classroom aide.

One solution to this dilemma is to provide an adapted environment in which students can take tests under close supervision. For example, some schools allow students to take tests in the counseling office or in a resource room setting. All test-taking in these settings is monitored to confirm that students have completed their own work. However, the time requirements are removed; all tests then become instruments for evaluating competence rather than speed.

Reduced workloads. As we discussed in a previous section, even when students are expected to participate at a competitive level (i.e., when they are held to the same standards as their nondisabled peers), this does not necessarily mean that they must complete the same amount of work. If a teacher is willing to allow a student to discontinue an assignment once he or she has demonstrated mastery of a concept or a process, precious time can be saved. In many cases, not to allow this to occur can be frustrating for all involved. For example, it is not uncommon to hear parents report how upsetting it is to watch their child work long hours to complete several pages of math problems, when it is clear that he or she understands the concepts by the end of the first page. When considering the amount of work, we must never lose sight of the purpose of the activity itself. Michael, an academically competitive student in a kindergarten program, understood the task set forth by his teacher. He was to cut out a series of shapes and designs and then align them in a way that would confirm to the teacher his understanding of one-to-one correspondence. However, as his classmates completed the assignment and moved on to another task, he continued to struggle with a pair of scissors, unable to cut out the first shape. If the purpose of this task was to enhance Michael's eye-hand coordination, his use of scissors, and his ability to cut on a line, we might not be overly concerned with the outcome. However, since the intention was to reinforce a math concept, the fine motor requirements of the task could have been revised (e.g., the shapes might have been precut), so that Michael could concentrate on the relevant learning goals. Such adaptations, though apparently minor, can make a major difference in a student's ability to participate actively in the classroom.

Thus, in regards to enhancing the curricular involvement of students with severe disabilities:

Recommendation #8:

A student's failure to participate in and benefit from the regular curriculum should be seen as an indication that adaptations are needed, rather than as an indication that integration per se is inappropriate. Team members should work together to develop innovative and individualized solutions to enhance academic and social participation.

Conclusion

A paper such as this, which is explicitly intended to offer "best practice" guidelines in a specific area, can be deceptive in at least two ways. First, one might assume that, because a practice has been deemed desirable, it occurs in the majority of situations. Second, one might infer that the practices deemed to be "best" are those for which there exists a great deal of support from the research literature. In terms of the curricular issues discussed in this paper, both assumptions would be erroneous. In 1992, most students with severe communication disorders who use AAC systems are not placed in regular classrooms, are not integrated in regular curricula, and are not provided with opportunities for interactions with nondisabled peers. Sadly, it is not at all uncommon for these children to enter school without access to either the writing and drawing tools, the reading tools, or the conversational tools that are available to their fellow students. That is, although they cannot hold pencils or crayons, they may not have access to augmented writing systems. Although they cannot hold books, turn pages, or use their voices to practice phonics, they may not be given adapted reading equipment or computers. Finally, although they have difficulty answering questions in class and participating in social conversations with peers, they may not be provided with AAC systems for interaction. Thus, it is not at all surprising that many of these students fail to participate successfully in regular education classrooms, since they are at a distinct disadvantage in terms of both academic and social learning. Unfortunately, when participation failure occurs, these students are often viewed as being "non-academically oriented" and are then assigned to either segregated classrooms or to adapted curricula delivered in resource rooms or other separate settings. In time, they often find themselves increasingly isolated from the mainstream, "integrated" only during "non-academic" classes such as music, art, or physical education. Until quite recently, it was only under exceptional circumstances that any of these students were retained in regular classrooms and provided with the adaptive devices and supports necessary for them to be successful. Because of this, the research base investigating the impact of inclusionary education on students with severe communication disorders is in its infancy.

Given these realities, the "best practices" discussed in this paper are intended not to reflect the present but, rather, to provide a vision for the future. As the movement for educational reform in the United States becomes ever stronger, it is critically important to understand that the "best practices" for students with severe communication disorders are no different from the "best practices" for all students. When students with severe communication disorders fail to be included in regular classes, their failure should be jointly shared by classmates, teachers, and others. Conversely, their successful inclusion in regular classrooms should be a triumph that is shared with and celebrated by those around them. Inclusion in regular schools and classrooms is possible, as is social and curricular participation at whatever level. Collaborative team relationships among professionals and family members should form the basis for excellence in education for all students in the 21st century.

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Is Communication Really The Point?
Some Thoughts on Where We've Been and Where We Might Want To Go

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This paper[1] presents a brief history of communication intervention and describes recent developments in the field which have brought about shifts in intervention focus, perspectives, and strategies. In examining how communication is important to a good quality of life, the author concludes that the real point of communication is membership in society. The concept of membership is explored, including the ways in which individuals construct stories that make the communication acts of individuals with severe disabilities commonplace and socially valuable. The author concludes that efforts to foster communication should shift to making sure that these efforts actually result in students achieving membership.

When I was first invited to prepare this paper, I was sure it was a mistake. While for some time now I have actively promoted inclusive schooling and community lives for people with severe disabilities, as a teacher, a teacher of teachers, and a parent of a young man with severe disabilities, I am certainly not, by any stretch of anyone's imagination, a specialist in communication. I, like many of the rest of you, read and listen to the others participating in this symposium in order to learn what I can about communication, how it works, and how it might work better for people with significant disabilities.

I was intrigued, however, by the topic I was offered: *The Role of Communication in Program Evaluation Based on Student Outcomes and Quality of Life Measures*. My first task was to try to figure out what that meant. So let me begin to undertake the task I have accepted by briefly reviewing where I think the field has been in trying to teach language and foster communication with people who do not acquire that ability naturally.

From Acquiring Language To Fostering Communication

There have always been people in our midst who could not speak. Our earliest responses to such individuals frequently involved the assumption that failure to speak was caused by a more fundamental failure to think. Gradually, we not only began to realize that speaking and thinking were separable abilities, but also to appreciate the awesome complexity and consummate skill with which children acquire the ability to speak (Moskowitz, 1978). Children *learn* but are not *taught* language. Instead, they seem quite literally to acquire language in the act of doing language, supported in their efforts by the others in their environments. And while psychologists, educators, linguists, and philosophers still try to better describe and explain what children so simply and elegantly do, it is clear that we already know a great deal about the acquisition of language.

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Perhaps one of the most important things we have learned is that language acquisition depends upon communication. Infants and young children find ways to make sense of and deliver messages about themselves and their worlds long before they are able to shape words or even recognizable sounds. However, we understand less clearly the acquisition of communication or how communication operates to foster the development of languages and to help people make meaning (Bruner, 1990).

Within our own small field, there has been a substantial increase in understanding why many children and youth with severe disabilities neither speak nor communicate effectively and what to do about this human limitation. The most concise way to describe the changes of the last ten years or more is that our focus has shifted first from teaching people to speak, then to giving students language, and now to helping students communicate.

Many of you will remember the imitation training we used in an attempt to get students ready to repeat our words. We flapped our arms, patted our heads, and rubbed our stomachs during hundreds of 15-minute lessons so that students would repeat "buh" and "ma." When it worked, we proceeded to naming -- first objects, then pictures, then symbols, then words. When it didn't work, we assigned the student to an assistant or volunteer who kept flapping, patting, rubbing, and recording zeros on our data sheets, while we specialists went on to another student who seemed more promising. Sometimes we started to hide and uncover things we thought the student liked, thinking imitation too advanced a task.

About 15 years ago, we began to offer alternative languages. Sign language, manual signs, blissymbols, and even rebuses all offered new paths to language acquisition, even when the language did not match our more conventional forms. Most of us teaching during that period spent hundreds of hours building language boards as an alternative to teaching speech. There was a real art to it, and many boards were quite aesthetically

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pleasing with their bright colors, overlays, and color-coded groupings of nouns, prepositions, verbs, and names. Every child needed his or her own board, but in most cases the only thing that personalized a language board was the size of the squares, carefully determined based upon the student's pointing mode and accuracy. Even the proper names were pretty much the same, at least for language boards within any one classroom.

It took until the early 1980s for us to realize that all the little zeros and flat graphs still collecting our data probably did not represent so much our students' limits or even the failure of our teaching but, rather, a serious gap in our perspective. We had failed to look at either speech acquisition or language learning from the student's point of view.

As adults, we have lost most of our aptitude for acquiring language as a tool for communication. The remarkable skill that children wield so effortlessly is almost fully atrophied in the youth or adult who, for example, tries to learn a "foreign" language. When we attempt to recall how we learned language, most of us only remember the grammar lessons of elementary and middle school, which sought to teach us the rules of "correct" or "standard" language usage. Just as we cannot really remember how we learned to walk, we cannot recapture the intense effort we expended dissecting the cacophony of sounds we encountered as young children into the minimal separable units of sound and meaning (Moskowitz, 1978). Neither can we recapture why or how we then induced rules for recombining those sounds and meanings into words, meaningful sentences, and patterns of dialogue, or -- more importantly -- why we wanted to. It is this memory lapse, I think, that led us to organize our interventions more like the grammar lessons of fifth grade than the natural action research of the young child.

With the 1980s we finally began to shift our efforts from acquiring language to fostering communication. How does this student communicate now? What meanings do students need to communicate? What forms do they use to communicate? These are all questions that guide our current intervention practices.

In the words of the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities (1992), we now seek to "facilitate attainment of socially effective communication repertoires" (p. 4). We have realized that we cannot always "fix" faulty language development, but we can perhaps reverse, or circumvent, the deleterious effects that severe disabling conditions can have on an individual's ability to communicate with others. Our focus has shifted over the past 20 years from acquiring words and languages to the outcome of "socially effective communication repertoires" (National Joint Committee, 1992, p. 4). Our technology for achieving this outcome is impressive.

As a summary of this brief account of our recent history, let me identify the three features of that technology that I find most important.

Feature 1: Shift in intervention focus. Rejecting an exclusive focus on the forms of communication -- whether sounds, words, semantics, or grammar -- we now emphasize analyzing and teaching communicative functions. We now believe it matters less *how* a person communicates than that they successfully request, reject, and comment in ways that affect other people in their environments. This shift has opened up many new possibilities for the formats people might use to communicate, and we have consequently expanded our cleverness at helping people communicate in nonconventional but functional ways.

Feature 2: Shift in intervention perspective. To function communicatively, some of the unconventional ways in which people express themselves depend upon others' understanding their "communicative acts" *as* communication and not as pathology or recalcitrance. We now try to pay as much attention to the activities and other people in the communicative milieu as to the person with disabilities we are seeking to assist. While the point of view still begins with the student, our broadened perspective must also encompass all others in the environment. We are encouraged, for example, to analyze people and environments for how they "invite, accept, and respond to communicative acts by persons with severe disabilities" (National Joint Committee, 1992, p. 4). It is not just what is said and why it is said, but also what happens to what is said that matters. Communication is facilitated when people's contexts are rich in opportunities to communicate and be understood.

Another aspect of this perspective shift is a renewed emphasis on using the information and interpretations of a wide variety of others to figure out more creative ways to facilitate desired "communication repertoires." The very complexities of human interactions and social environments require the focused attention and creative thinking of many to manipulate matters in ways that support people with severe disabilities to be successful communication participants.

Feature 3: Shift in intervention strategies. The shifts in focus and perspective have naturally led to a shift in intervention strategies from ones that relied on a good deal of inference -- what we are doing right now at this table with these materials will help this child communicate later to other people in another place -- to ones that eliminated or at least greatly minimized inference. Preferred "learner-oriented" intervention strategies rely upon "real-world" places, natural activities, and typical people (e.g., Warren & Rogers-Warren, 1985). We seem to be trying to recapture some of the young child's natural action research approach, which *is* action research precisely because it is so dependent upon context.

Of course, there is still much to be learned, both about language learning and about fostering communication. Even the briefest review of the available literature reveals a number of ongoing debates (e.g., Calculator, 1988; Kangas & Lloyd, 1988; Reichle & Karlan, 1988; Romski & Sevcik, 1988). *Are* there any prerequisite abilities to even this new conceptualization of augmentative communication? What *is* the relationship between communicative functions and symbol meaning? What *do* you do when the disabled student is not an active participant in the communicative exchange? *Are* some of the higher-tech, and more expensive, devices and systems justifiable when compared to the benefit obtained by the person with severe disabilities? *Is* there any role for simulated teaching and multiple trials? How many augmentative communication modes are enough, and are we using the right "rules" for deciding which and how many? How *do* we get communicative partners to increase opportunities, respond more appropriately, and understand more quickly? Just how *do* we get groups of professionals to work together?

I expect that in one way or another the field will eventually discover answers of a sort to these and other questions. The discussions I find most intriguing are those that describe all the ways in which even our new ideas and technologies are not getting it quite right (e.g., Calculator, 1988). Even though we must make our best guesses about meaningful vocabulary, there are still too many nouns and verbs in our augmentative systems that students need only to obtain our reinforcers. While we seek ways to embed communication opportunities in existing activities, we too often respond to a child's point, head nod, eye gaze, or noises by telling them that we understand what they mean, but they must point it out on their board or use their device. We still spend a lot of time asking our students redundant and meaningless questions just to get them to answer.

Sometimes, in fact, we seem to get things more wrong than right. Some colleagues of mine at the University of Oregon recently began a federally funded research project to investigate the impact of assistive technology on children's lives both inside and outside of schools. Their first challenge was to find "users" of assistive technology, especially "devices" technology. Within a few weeks they had redefined "user" to "possessor" of assistive technology. Of course, even "possessor" turned out to be inaccurate, since they found too many devices languishing in the corner, far enough from being in the possession of the intended user to completely exclude, and perhaps obviate, real use.

I suspect it is these rapid changes in our approach to speech, language, and communication for students with severe disabilities, combined with the continued "error patterns" of practice that we all still experience, that gave rise to the topic I was offered. My task in this paper, then, is to reflect upon the role that fostering communication plays in improving the quality of students' lives. Put slightly differently, how is communication important to a good quality of life, and how do our current practices support that agenda?

From Fostering Communication to Achieving Membership

Implicit in this topic and explicit in the guidelines of the National Joint Committee (1992) -- which are presented in Appendix A of this volume -- is the assumption that communication is central to a good quality of life:

> Any consideration of quality of life must take into account the degree to which individuals can

> effectively communicate with, and thus be a full participant in, the human community in which they live. Communication is, then, both a basic need and a basic right of all human beings. (p. 2)

The logical extension of this assumption is that improving communication will improve quality of life. I will use the rest of this paper to explore the question, "Is communication really the point?" because I think it is not.

Instead, I will argue that what we really seek is not "socially effective communication repertoires" at all, but *membership*. And not just any kind of membership will suffice, only participatory, socially-valued, image-enhancing membership. The purpose of all of our interventions, programs, indeed, schooling in general, is *to enable all students to actively participate in their communities, so that others care enough about what happens to them to look for ways to include them as part of that community.* While communication certainly aids that agenda, it is not the agenda, and that has implications for how we work with communication functions, communication acts, and communication partners, because while communication seems to ground language acquisition, I believe membership grounds communication. Satisfying, active, contributory membership depends upon fostering the kinds of interest, shared meanings, and relationships upon which socially meaningful communication must be based.

Unlike communication, membership cannot be reduced to acts, forms, functions, or repertoires. Membership cannot be predicted or controlled; it must be conferred. We can join or affiliate, but we only become members when the group creates a shared definition that incorporates us, including us as a meaningful part of the collective attention and activity. Membership is not achieved cumulatively in bits and pieces of acquired capacity or through certain interactions rather than others. Membership emerges from the actions between people that are borne of interest, belief, and trust, and it is captured in the stories people create to give meaning to their experiences.

In describing membership in this way, I am drawing upon an interpretive view of the world (Eisner, 1990; Ferguson, Ferguson, & Taylor, 1992). Interpretivism seeks to explore the complexities of our experiences by discovering and understanding the various stories we tell to make sense of those worlds, as well as the processes we use to create our explanatory narratives. An interpretivist perspective is somewhat unconventional in special education, because our field has long depended upon an objectivist approach for investigating and explaining life and its experiences. Objectivists tend not to be satisfied with stories, because they have too much particularity about them. Stories do not control variables very well. Stories are slippery and individualistic, subjective and judgmental (Ferguson, Ferguson, & Taylor, 1992). Yet all of that is precisely why an interpretivist perspective can illuminate the ways in which fostering communication can still fail to achieve membership. Let me illustrate with some stories about membership and how it operates.

Story One. Tuesday's beginning drama class mostly offered lecture/discussion with a few exercises for variety and practice. First, Rick introduced the notions of "high-centered" and "low-centered" personalities. He asked students to adopt one of these generic personae and answer questions "in character." After a few exchanges, Rick asked the class to reflect upon how they were depicting these two personae, generating a good deal of discussion about stereotypes and class distinctions. Ethan sat quietly, sometimes leaning back to look at ceiling lights, occasionally yawning, not closely watching Rick, but seemingly listening. Rick wandered as he talked and questioned. When he moved near Ethan, he smiled and touched him warmly. At one point, while framing another question for Curt, Rick picked up Ethan's handkerchief and wiped away the wetness that oral motor impairments constantly created around his mouth.

After several students' turns at the exercise, Rick reminded Ethan that he was going to ask him a yes/no question and that he wanted him to answer in either a loud or a soft voice. More questions, first to Annie, then Paul, then Sheila: "Do you think of yourself as smart?" "Do you think of him (pointing out another student) as smart?" "Stupid?" "Is black your favorite color?"

Rick approached Ethan and asked, "Do you like red?" Ethan replied, "Do you like red?" Rick tried again, only to have Ethan repeat the question. Nora offered assistance, saying to Ethan: "Listen. It's a question. Do you like red?" Ethan still repeated the question. Both Nora and Rick tried to ask the question a different way, and after three or four more exchanges with both Nora and Rick, Ethan finally offered, "I like red."

Rick asked Nora to explain to the class what had just happened. "Sometimes Ethan doesn't understand what information a questioner wants," she explained, "but he knows that he is supposed to answer, so he repeats what he just heard." Rick added that repeating is Ethan's way of "letting us know that he doesn't get the point, and we have to try another way to help him understand."

This led Rick to a larger point about communication and how important it is to actors on a stage. He pointed out that, as actors, they are going to need to communicate a great deal about a character very quickly and briefly, but they will not enjoy the luxury of having an audience that can tell them when they don't understand. "Ethan," Rick concluded, "can help us all learn how to imagine what might not be communicated, so we can discover all the ways of communicating that will help more people understand what we are trying to convey with our character."

Later in the term, when Kim and Sharon were planning the combative scene that would be their final for the unit, they struggled with how to include Ethan. The scene itself wasn't so difficult to create: Ethan would be walking to a snack bar with one of the young women, when another would approach and kick at his wheelchair, telling him to "get out of the way!" They needed an epithet, however, and that was more difficult. Both students approached Nora and Rick: "What names could/should we call Ethan?" they asked, worried about being inappropriate and hurting Ethan's feelings. Rick responded, "Call him the same kinds of names you would call your other friends." Both looked unsatisfied with this answer but, after a pause, accepted it and returned to the rehearsal.

Watching the interaction, I wondered if they weren't really trying to ask if it was okay to call Ethan "retard" or "crip." The teacher's response seemed to confuse them, in part because these might very well be the names they would use with other friends. They decided on "jerk," but I think their unspoken question well illustrates that it is the stories we create about the contradictions and dissonances of our experiences which really determine the meanings that get exchanged in our communications with each other.

Story Two. Irene sat Zack in his chair, and a little boy came over and set a puzzle on Zack's tray. He stood next to Zack at a desk with a puzzle of his own. First, he dumped out Zack's puzzle on the tray, and then he dumped out his puzzle on the desk. He didn't acknowledge Zack in any way, but was just very matter-of-fact about what he was doing. Zack grinned at the sound of the puzzle pieces hitting the surface of his tray and picked one up and looked at it. He wiggled it back and forth and tapped it on his tray. The little boy began putting his own puzzle together. Two other boys were playing with large blocks on the floor next to Zack's chair.

I couldn't resist going over to Zack's puzzle buddy and asking him if he had noticed how Zack had smiled when the puzzle was dumped on his tray. He looked at me seriously, picked up another puzzle, and dumped it out on Zack's tray, then bent over to watch for Zack's reaction. Zack smiled again. A glimmer of a smile crossed the boy's face, and he dumped out a third puzzle on Zack's tray. Then he went back to working on his own puzzle. He hadn't said a word.

Soon the little boy with Zack was putting together his puzzle on Zack's tray table. Zack watched and grinned. The two boys building the blocks on the floor next to Zack's chair had started to weave the blocks around his chair. I walked over to ask them what they were building, and they said it was a train track. Another boy came over and started to do puzzles on Zack's tray, too. A third boy walked up to Zack, leaned over to look into his face, and said "Hi, Zack!" Zack smiled at him, and the boy rubbed Zack's head. This was the same boy I had seen sitting with another student from Zack's special class in the lunchroom.

The two boys building the railroad track wrapped it all around Zack's chair. I don't know if that was intentional or if it just happened because they were working in a confined space, but it made me smile. Zack didn't even know that they were there. Or maybe he did. Maybe he grinned so often because he was surrounded by activity and people.

From time to time Zack dropped a puzzle piece on the floor. Not saying anything but sometimes smiling at Zack, his puzzle partner picked up the pieces and put them back on the tray. The boys building the track were getting bombed by puzzle pieces. The pieces fell on the train track all around Zack's chair. The boys also picked them up and put them back on

Zack's tray. I went over to the boys and told them that, to me, Zack and his chair looked like a mountain and the puzzle pieces were snow falling from the mountain. They gave me odd looks and went back to playing. I suspected the bombs metaphor would have met with more approval.

Creating Membership Stories

Achieving membership for children and youth who have severe disabilities is challenging to be sure. Yet the people surrounding both Ethan and Zack were constructing stories that included them as members despite their differences. In Zack's case, this happened almost entirely without words and certainly without the offered stories of adults: mountain indeed!

The boys were interested enough in Zack to play nearby. One boy experimented and then adopted turning out puzzle pieces on Zack's tray as part of his play. We don't know why Zack smiled or exactly what the boy made of that smile, but it was enough in this scene to change the boy's play to include Zack just a little more. Perhaps this small change in his play agenda encouraged the other boys to build the track a little closer to and then around Zack's chair.

The scenes from drama class occurred early in Ethan's affiliation and illustrate the interpretive procedures people use to make sense of departures from our cultural expectations, commonsense beliefs, and norms. Ethan, like all Rick's other students, had a role to play in class activities. Ethan was asked a simple yes/no question. Why didn't he answer that way? As teacher to student, Rick's relationship to Ethan created the context that required him, with Nora's help, to make Ethan's unconventional response to the simple yes/no question meaningful to the group. I think it is interesting that Nora and Rick created two explanations. One stressed Ethan's interest and similarity: "He knows he is supposed to, and he wants to, respond." The other translated Rick's and Nora's interpretations of Ethan's "mistake" into a point about the task of acting: "It is difficult to communicate quickly and accurately about your character."

Let me share one more story that illustrates in a different way the importance of relationship, interest, and shared meaning as a foundation for membership, communication, and language.

Story Three. "People began filtering into the room in small groups. The traditional light wood tables were arranged in a large "U," leaving a huge empty space in front of the speaker's desk. The room, like almost all the rooms I've seen in Finland, was light, airy, and modern. The windows looked out onto the frozen lake through the nude birch trees and scattered pines. The seminar participants arranged themselves around the "U" in their working groups: people from Jyvaskyla at the bottom of the "U" on the right, Joensu on the left. The contingent from Vasa came late and filled in the left corner and a few seats of the window side of the room. There seems to be no one from Helsinki University's Special Education Department."

Thus began the fieldnotes I created as an illustration for my presentation the following day to faculty and graduate students from the four universities in Finland that have departments of special education. I expected to understand none of the proceedings, which would be in Finnish. After nearly three weeks, I still only heard the staccato cadence of the language that always reminded me of a march. All Finnish words are pronounced with emphasis on the first syllable, I had learned, but only a few words spoken in isolation, like "kiitos" or "hei" or "paivia," carried any meaning for me.

Still, I wanted to have an illustration of jotted notes collected during an observation in preparation for writing fieldnotes. I also needed something to keep me alert and attentive during this first afternoon of the seminar. It seemed important to be present and interested even though the proceedings were in Finnish, because each of the participants had already been exceedingly gracious about speaking to me in English during my visit.

The afternoon's presentations were quite formal. With only one exception, the speakers sat behind the desk and spoke using no illustrations, except perhaps verbal ones that I could not decipher. Audience members took few notes and seemed to provide very little nonverbal reaction to the speakers, something I had noticed during my own lectures as well. After the second presentation, a period of questioning and exchange occurred among three or four of the students and two of the professors. As I listened and watched, trying to capture in my jottings who spoke for how long in what sequence, I quite suddenly realized that I knew exactly what they were talking about!

The students were criticizing their system's provision of faculty support for dissertation research. Another point of contention was what the students, and perhaps one of the professors, believed to be a narrow definition of "accepted" research methodologies. Many of the students wanted to explore, for example, qualitative research methods and interpretivist research traditions but felt thwarted and discouraged.

I had not deciphered a single word of the discussion, but the messages of body language, intonation, humor, and pacing, more present in this animated exchange, together with my knowledge of these people and their work which I had acquired over nearly three weeks of lectures, casual chats, and planned tutorials, replaced the mysterious strings of sound with meaning. Later, during dinner, several participants asked me how I had fared for so long a time understanding nothing. When I recounted what I believed I had understood despite my language disability, they confirmed my interpretation and, expanding in English, enriched my understanding with recollected and embellishing details. Thus, for me, having established membership, fairly complex communication occurred even without language.

The Making of Membership

Our experiences and memories of our social worlds are powerfully structured, not just by deeply internalized stories of how our world operates but also by the historically rooted institutions of our culture, including such institutions as "special" education (Bruner, 1990). When our deeply held beliefs and explanations are challenged by people and events, we create stories to explain the dissonance. Many people with severe disabilities pose a unique challenge precisely because they do not obviously share our explanatory stories. At the same time, they possess dramatically different capacities for entering into our efforts to create shared meaning. They represent dissonance that must be resolved.

In a study that explored accepting relationships of people with severe disabilities, Bogdan and Taylor (1992) found that nondisabled partners conferred membership by creating stories that (a) attributed thinking to the other, (b) saw individuality in the other, (c) viewed the other as reciprocating, and (d) defined a social place for the other. Perhaps surprisingly, their stories focused not on those behaviors that might be thought most similar between disabled and nondisabled partners, but on those most dissonant. Partners in such relationships created stories of possible worlds where the exceptions made sense. Expanding commonsense beliefs, so that it is sensible to repeat what one hears instead of responding to a yes/no question, is how even very disabled newcomers become incorporated as members of the group. In this story-making way, relationship partners of people with disabilities become co-creators of their partners' cultural identity. Quite literally, we define who persons with disabilities become in our social worlds based not just on what they do, do differently, or fail to do, but based on who they become through our stories.

This story-making process always occurs in one way or another. What the resultant story may not assure is the kind of active, socially-valued membership we seek for people with severe disabilities. Teaching people an appropriate response to another's unconventional communicative acts, or how to create an opportunity for a communicative act, only supports this kind of full membership, if the nondisabled partners already have enough interest, curiosity, and meaning to create a story that makes the different communicative exchange commonplace and socially valuable.

In a recent book Jerome Bruner offers a metaphor I find particularly helpful for illustrating how membership grounds communication:

> When we enter human life, it is as if we walk on stage into a play whose enactment is already in progress -- a play whose somewhat open plot determines what parts we may play and toward what denouements we may be heading. Others on stage already have a sense of what the play is about, enough of a sense to make negotiation with a newcomer possible. (Bruner, 1990, p. 34)

It seems to me that children and youth with severe disabilities are always stepping onto the stage of an ongoing play as they move out of isolated worlds to join our classrooms and communities. Although they may not ever completely divine the script, others' understandings of the possible roles and outcomes they might fulfill determine the inclusion that gets negotiated. In one way or another, people with disabilities become members of the company.

Sometimes, however, this inclusion may not always be a membership that is characterized by active, valued participation and status in the group. Often, deeply embedded social structures and cultural histories can limit and shape the range and type of stories that get told. Think of what it meant to be female 20 years ago. There was a dominant social construction of what was and was not feminine or female. This, of course, does not mean that there were not always many women who had very different interpretations, different social constructions. Similarly, for people with disabilities, our history of social exclusion is grounded in a set of stories that everyone seems to agree with so completely that no one notices any longer that they are, in fact, stories.

As members of the social play, those of us interested in the kind of membership created have an opportunity to influence that construction. If the script about disability — the commonsense beliefs held by other players -- permits only passive participation in the chorus, for example, or requires that disabled members be "cared for" instead of "cared about" as active participants, no amount of intervention on the communicative act's form, or the ability of other players to invite, accept, and respond, will substantially affect the kind of membership that is achieved. Thus, it is our task to replace the old, taken-for-granted stories with new ones that offer more possibility for richer membership.

Keeping the Point in Focus

Membership is the point that communication merely serves. We must first understand how others negotiate the newcomer's role, what explanations they create, and what meanings they ascribe. Only then can we foster the kinds of communication attempts that result in full and active membership. We need to shift our efforts from fostering communication to making sure our professional efforts actually result in students achieving membership. Let me suggest three things that might help us all -- but especially those of us who are professionals -- achieve a shift to membership as the essential outcome in which communication, no matter what form it takes, enhances the relationships of membership rather than takes on the task of creating them.

Create your own stories. Our own professional perspectives, dependent as they are on reducing the problems and solutions of practice to effectively managed components and strategies, can easily miss the bigger picture of membership. Before we expect others to incorporate a student with disabilities by adjusting their own communicative behaviors, we should try to create our own stories of how this individual's differences might be made commonplace, not in our labs, therapy rooms, or even instructional activities, but in the playgrounds, hangouts, and pathways of active community life. Apart from our professional roles, in the community parts of our own lives, how would *we* construct this person's membership? What would be *our* sense-making story? Does it challenge or accept dominant stories that might be limiting or patronizing?

I remember taking a young friend to the downtown Saturday Market once. Each Saturday from April through Christmas local farmers, performers, artists, and craftspeople set up booths on two downtown park blocks, creating a uniquely Eugene community event. Always a little challenging to commonsense expectations, my friend became on this occasion upset enough to begin screaming. She fell to the ground and began bashing her head on the pavement. Another woman approached, reaching toward her and chanting words about faith, God, and religion. My friend paused, as if joining her prayers. Unable to join in the explanation the woman was creating around my friend, I was nonplussed and retreated from the scene. People moved by, some shrinking, some sympathetic, some pitying in their demeanor and reaction. A couple of people stopped and joined the exchange. I was merely embarrassed, having no way to be matter-of-fact about my friend's outburst.

I've wondered since how I might have made this woman's ways of being in the world a more commonsensical and safe part of our sharing encounters. Perhaps she needed to spend more time on the sidelines, absorbing the stimulation of the Market before moving through and trying to react. Perhaps her only way of participating in such experiences was from the edges, where her own sense of place could be clearly identified and managed. I might have found the stranger's religious explanation for my friend's behavior unhelpful, but what mattered was that I had nothing else to offer (except restraint) that might have led to ways of interacting with her that resulted in a social place, even a peripheral one, in this regular community event.

Sampling our own nonprofessional perspectives can help us to imagine others' possible constructions of people's differences and to incorporate them as part of our interventions, perhaps minimizing the missed communications our observations so often document but fail to resolve. I might not have imagined the religious explanation, but had I thought about Saturday Market more broadly, I might have remembered that many people come to Saturday market to shop, eat a little, listen to music, and spend time. I might have also remembered the people sitting on the grassy areas and stone seats, watching and commenting on the ebb and flow of the crowd. Maybe they were just pausing from their shopping, but they might also have been uncomfortable with the crush and noise of the crowded sidewalks, preferring to join from the sidelines the community of both shoppers and time spenders. I didn't know whether my friend was a shopper or a time spender, or whether the edges or the middle might be her preferred vantage point. I had not listened either to her or to others who knew her interests, preferences, and choices and so had no stories for going to

Saturday market that might have incorporated my friend.

Listen for the stories of others. Achieving membership as I have described it here requires that we improve our capacity to listen carefully to all the others creating stories that explain our students' differences as commonplace. Sometimes, of course, we may not be able to understand the story created. Zack's playmate seemed to be finding a narrative of shared meaning that was not very obvious to the observer. The observer did, however, notice enough of the interaction nuances to realize that a story was being created that incorporated Zack as a member of the puzzle play in some way. At least one boy understood enough about who Zack was as a person to find a social place for him in the game. These constructions of others are often idiosyncratic, not replicable across others in the setting, but, for all that, these constructions are no less important to the creation of membership and eventual meaningful communicative exchange among all present in the context.

Listening completely, however, requires that we rest our professional perspective long enough to be able to hear the simple but powerful constructions offered by all, including the most ordinary and unsophisticated among us. Ordinariness is the stuff of membership, because peers, siblings, moms dads, and folks are the membership partners that matter most in the scheme of things.

If we fail to listen in this nonprofessional sort of way, we risk creating professionally conceived and designed interventions intended to aide both communication and membership but which serve instead to crush fragile membership beginnings. The observer's mountain metaphor is a small example that, in Zack's case, was safely ignored by the boy. Imagine what might have happened to the puzzle play, and the small smiles, if the observer had first coached the boy in three strategies for inviting communicative acts from Zack and then provided him with feedback about the success of his efforts. The boy might have begun to create an explanation of Zack more characterized by professional dimensions of deficit and remediation -- "Oh, he is different, and we have to act in special ways to help him" -- than whatever guided him to so matter-of-factly set up his play so that Zack was in the midst of it. Perhaps the only difference that mattered was that Zack had a tray that made it easy for him to puzzle play. Flat surfaces and puzzles go together.

Our professional techniques work best when they can enhance what is already going on naturally, including how people are creating meanings about the differences our students present to the situation. Pointing out to the boy that Zack smiled when the puzzle was dumped on his tray was just the right amount of professional intervention to encourage the exchange already begun. The important point for membership is that the boy had sufficient interest to turn out the first puzzle. The observer's comment did not capture, it merely nurtured, his interest to try a second and third time for Zack's answering smile.

Proclaim the value of those whose stories so often go untold. There will still be some few students so unique, so different, that none of the available cultural, historical, professional, or institutional explanations will provide raw material for the commonsense membership stories we hope to see achieved. It is these few individuals who need not so much our professional expertise and technology as our narrative insight to help the others in their midst construct a meaningful membership role. I have seen able teachers simply ascribe meaning and, in so doing, help others see a very disabled student as a player. A small change in orientation of the head becomes a preference for recess outside instead of inside. A sound a student might commonly make becomes that student's choice of one answer over another.

While these teachers may not "really know" what the student means or prefers, or even whether there was any intentional behavior at all, the ability to offer a construction that is commonplace and incorporative makes it possible for others in the setting to do so as well. Ethan didn't "really know" how to answer the question, but because Nora and Rick could explain how his confusion was similar to that experienced by any member of an audience trying to appreciate a character, others in the drama class were able to move on to creating more and more elaborate accounts of Ethan's membership in beginning drama. Nora, a friend of Ethan's for several years, had arrived at her account of his repetitive speech not so much as a professional but as someone trying to help him answer the person serving drinks at the concert or the waiter at the yuppie burger restaurant. By sharing her own strategy for making Ethan fit into her personal life, she created the opportunity for others to do so as well. Sometimes it is the *telling* of our own membership stories that holds the most power. So let me conclude with one more brief story about Ethan and his experiences in beginning drama.

As part of the end-of-year closure festivities and performances, Rick invited the class to select from among their number the male and female student who not only "showed the most improvement" but also "showed the most promise as an actor." Recounting the vote to me after the fact, Nora and Rick reported that they were surprised and moved to discover Ethan received seven votes. "If it had only been improvement, I could see it," Nora explained. "Ethan really did learn a lot that everyone could see."

"But promise as an actor!" Rick continued their thought. "That shows how much they came to value Ethan as a *member* of the drama class."

Membership Activities and Resources

Membership may seem like a difficult concept. It certainly doesn't seem as easily measurable, predictable, or controllable as so many other, more familiar educational concepts. Fortunately, the very complexity of membership is the source of its value for us. Membership is not so much an educational concept as it is a community concept. All of us quite naturally *know* what membership means. We have all felt the sense of belonging that is membership's hallmark. The following activities and resources may help you translate your own natural familiarity with membership into situations that involve children and youth with severe disabilities.

Activity 1: Take a wide-angle snapshot. On a regular basis, try to stand back and look at the whole setting as if you were an observer from another world. Try to notice the following about the person you are interested in supporting to be more of a member:

1. Where is the person in this space? On the edges? In the middle? In a cluster of others? More or less alone?
2. How does the person operate in this space? Does she move about this place more or less like the others? If not, how does she look in the pattern of activity? Does everything seem to pass her by or flow around her in a way that seems oblivious to her lack of movement? Or does she seem to deflect others by her activity?
3. How does this person look in this space? Are his differences minimized? Is he accessible to others? Does his equipment invite or discourage others from approaching and getting near? Do others approach this individual and his "stuff?" Do others seem to shy away? When? Why do you think?
4. What does the person do in this place? Does she do similar or different things? With similar or different materials? Do any differences seem to make others act differently with her?
5. With whom does this person do things in this space? Does he seem to have the same range and variety of interactions as the others like him in this place? Do adults or official people seem to interact with him more or less than with the others? Do adults or official people interact with him differently or similarly to how they interact with the others? Do the other people like him in this place interact with him similarly or differently from how they interact with each other?

Now look carefully at your wide-angle snapshot. Is there anything about this picture that makes you feel like this person belongs? What things give you that impression? How might you make sure that these things are always happening? How can you organize your teaching and support so that these things are not disturbed?

Is there anything about this picture that makes you feel like this person doesn't really belong? What things give you that impression? What could you change about the picture that might change your impression? Try it and see what happens.

Activity 2: Make up stories. On a regular basis, step back and listen like a storyteller in search of material. Watch the person you are interested in supporting and all the others around that person for how they are making each other commonplace in this place. Watch all the little subtle ways everyone talks, moves, gestures, looks, and fails to do these same things, then try to make up stories about the following. Remember that different people may have different stories. Try to capture them all for your repertoire.

1. Who do they think the person is? Is he just another one of us? Or someone else? Who?
2. Do they think she is younger or older than they are?

3. Do they think he "speaks a foreign language" or doesn't communicate at all?

4. How do they think she thinks? Like them? Differently? How differently? Only about some things but never about others? Does she notice the same kinds of things they do?

5. How do they think he feels about things? Does he think the same things and people are important? Silly? Does he get sad, happy, and mad about the same things? Different things? What different things?

6. What do they think she wants? The same things they do? Different things? What different things?

7. What do they think about the things he does or does not do? Are these things "weird" or intriguing? Funny or gross? Okay enough to hardly be noticed?

8. What do they think about the people and things that come with her? Do they notice these extra people and things? How do they explain why she has these people and things?

Now think about all the stories you have collected. Which stories seem to be about making the individual with disabilities belong? Which stories seem to make the person's differences commonplace? How? Are there stories that seem to be making the person a member in a way that seems unreasonably different or special? Are there stories that seem to be rejecting this person as a member?

Activity 3: Tell stories. Whenever you are with the person you are trying to support as a member, keep part of your mind focused on all the things you know from the wide-angle snapshot and the stories you have been making up. As you decide how to interact with, teach, or help the people in this place, filter your decisions and actions through that layer of your thinking that is holding the snapshot and stories.

Make your actions and words tell stories of belonging by:

- using the stories of belonging already present in the minds of others in this place;
- reframing others' less incorporative stories;
- framing your "special" actions and words in ways that fit the others' belonging stories;
- emphasizing the ways in which the person is thinking about things;
- revealing how the person feels about things;
- letting others know what the person likes and doesn't like; and/or
- suggesting lots of different ways the person has a role in this place.

Activity 4: Read stories. Try to regularly read things that help you practice seeing the experience of being different from the point of view of those who directly experience it. Their own interpretation of the stories that others' actions and words tell can help you reflect on the messages your own words and actions might give.

The resources listed immediately following the references are just a beginning list. Use these to find others and share them with your colleagues and friends.

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Dreams, Schemes, Teams, Flying Machines and Persons with Severe Communication Disabilities

A Keynote Address

by

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This keynote address discusses the importance of having a dream, or shared vision, of the future of individuals with severe disabilities within our society. A dream of a social environment that encourages and enables communication with individuals with severe disabilities is proposed.[1] *To turn that dream into concrete reality, however, requires a scheme, or specific plan. The scheme suggested by the author is one of effective communication partnering, where all members of society have the desire and skills needed to communicate effectively with individuals with severe disabilities. Effective, informed teams will be needed to enact the scheme and accomplish the dream. The keynote address concludes with a journey on a flying machine, which provides an overview perspective of where the field has been, where it currently is, and where it might go in the future, if the dream of full inclusion and the scheme of effective partnering are to be attained.*

In 1988, at the OSEP-NEC*TAS Partnership Conference in this city, Ann Kaiser delivered a paper entitled "Dreams, Schemes, Flying Machines and the Law: New Perspective on P.L. 99-457." Not only was her presentation excellent, but I found her title and ideas exciting. To Ann Kaiser, I owe my own adaptation of that title: *Dreams, Schemes, Teams, Flying Machines, and Persons with Severe Communication Disabilities*.

Dreams

Dreams are important. By definition, a dream is "a visionary creation of a strong desired goal or purpose." A dream is the mental image of the idealized version of a desired result. Dreams are the seeds from which great plans and mighty movements evolve. Dreams can be the unique creation of an individual or the shared dream of a group of persons with similar concerns and goals.

We have a dream about a social environment that encourages and enables communication with individuals with severe disabilities. In 1992, the National Joint Committee for Meeting the Communicative Needs of Persons with Severe Disabilities issued guidelines that contain a "Communication Bill of Rights." One component of this document is an assertion of the right of individuals with disabilities to surroundings that "expect and encourage (their participation) as full communicative partners with other people, including peers" (National Joint Committee, 1992, p. 3). This means that it is not enough for us to teach the skills necessary for communication to individuals with disabilities; we must also create an environment in which there will be people who desire, and know how, to interact with any person, regardless of that person's level of function. And just how do we create this environment in which people will have this desire? *Schemes*, folks. We need a scheme.

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[1] This keynote address was prepared for and presented at the Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities, held July 10-12, 1992, in McLean, Virginia. T.J. Foehl, graduate student at the University of North Carolina, Speech and Hearing Sciences Division, contributed significantly to the research and writing of this keynote. The Symposium was supported through Grant No. H086B10002, a Cooperative Agreement between Interstate Research Associates, Inc., and the Office of Special Education Programs (OSEP) of the U.S. Department of Education. The opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement should be inferred.

Schemes

A scheme is the bridge between the dream and reality. A scheme is a plan, a strategy, a program of action. There are four key characteristics of an effective scheme:

1. keep it as simple as possible;
2. make it flexible so that responses to changes in the system can be accommodated;
3. consider the human factor, the most important level of any system; and
4. build in responsiveness at key human points, allowing those involved to have some control in their interactions in the system.

Our dream of a responsive and encouraging environment for persons with disabilities requires a plan if it is to move to reality. We cannot merely talk about how important it is to provide effective communication systems for all persons; we must devise a plan to make it happen. Let's figure out what to scheme about. I suggest *effective (communication) partnering*. Next, we'll sketch out the scheme -- our strategies for bringing about effective (communication) partnering. Then we'll carry out the scheme by *doing it* (to borrow a well-used phrase from Nike).

There are some potential barriers to this scheme. To enact the goals of the dream verbalized in the Communication Bill of Rights will *require a plan (scheme) for the education of all people who will potentially interact with, or affect those who interact with, persons with a severe disability*. This includes: the family; the extended family; educational, recreational, and vocational personnel; religious leaders; service personnel (e.g., the cashiers at McDonalds); and the public media personnel, to give a few examples. These individuals include a wide range of values, abilities, and concerns; to devise a scheme flexible enough to be responsive to all potential communication partners will be a major and difficult task but certainly not an insurmountable one. Let's *do it*.

This paper appears in L. Küpper (Ed.), *The Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities: Topic papers, reader's guide & videotape.* McLean, VA: Interstate Research Associates.

There is a need to create an accepting attitude among those who interact with the individual with a severe disability. Legislation such as the Americans with Disabilities Act can remove physical barriers, but statutes cannot generate sentiment. Our dream is not of a society that is creating accessibility and providing opportunities in grudging compliance with federal, state, and local mandates, but of a society that welcomes and includes individuals with disabilities in daily activities because it *wants* to. What will bring about that change? How will it happen? Whose responsibility is it to ensure that it happens?

Start with us, the transdisciplinary *team* of professionals.

Teams

All disciplines must share responsibility if we are to create and implement a scheme for effective partnering. Many fields touch the lives of individuals with disabilities. Warren and Reichle (1992) discuss the positive results of multidisciplinary input. It provides an abundant source of contributions to a singular set of goals. There is a negative side, however. As Warren and Reichle (1992) state, "This diffusion also leads to dissolution and lack of focus" (p. 2). Part of determining if a scheme is working is to keeping in mind our dream (focus). We must remind ourselves of what we are trying to get done. No scheme, no matter how elegant, is useful if it doesn't bring us to reality. It is important to conceptualize our dream in a concrete plan, specific to the needs of persons with severe disabilities and their families and to the abilities of us who must assume the responsibility for change. This means moving beyond the required planning (dictated by public laws) to meaningful planning (the desire to do it). Next, we must outline interim goals that reflect that meaning.

A shared language (good communication) is at the core of successful teamwork. The team needs a system of common definitions and terminology in order to communicate with each other while developing the scheme. We all need to "talk the same talk," which must be meaningful to the lay public (potential partners). What do we all mean by terms such as effective communication, quality of life, functional communication, full participant in, least restrictive, integrated, appropriate, reasonable, and inclusion? These terms are loaded with tremendous implications for individuals with severe disabilities and their families, as well as for society as a whole.

Before we can figure out how to make all these things happen, we need to know what it would look like if "effective (communication) partnering" were occurring for those individuals with whom we are concerned.

Flying Machines

We all know what flying machines are, but for now let's think of their function. Flying machines allow us not only to get from one place to another, but also to get above the "playing field," to get a broader view of what is below. In other words, they allow us to gain a perspective of where we've flown from and a perspective of what we may yet encounter and/or look forward to.

Now I would like us to get up out of the trenches for a moment and take a bit of a trip. The flying machine is going to take us on a mind trip through time. Our flying machine allows us to have a moment of clarity, to catch a glimpse of what we're doing in its critical context.

The flying machine will allow us to look back to the beginning efforts to improve the communication of individuals with severe disabilities. If we look at the communication intervention programs that have been published in the last half of the cnetury, we clearly find a mirroring of our history of what is known about child language behavior. Like it or not, that old adage of "give a child a hammer and he (or she) will pound everything in sight" is quite like the role that our intervention programs have taken and do take. With each new "hammer" that became available to us at a particular time, we pounded on every person with a communication disorder (mild to severe) within sight and sound. Although our hammers have taken on different hallmarks, depending upon the era and knowledge base, they continued to have one thing in common: our zeal for using them to the exclusion of the other possible approaches (Yoder, 1987).

There are several recognizable phases in which the focus of intervention shifted. During Phase I, or the *Unit Period* (pre-1957), we focused on the acquisition of units of sounds, words, and sentences. Articulation therapy and vocabulary building were the focus of the game. Phase II was the *Rule Period* (1960s), when we examined the knowledge a child had of the rules of language that governed how these sounds, words, and sentences were combined. We pushed morphology and syntax, and every child had to have control of the progressive "-ing" form and the past tense markers! During the Rule Period an argument surfaced as to whether there was a human innateness which was responsible for language development, or whether language was acquired because of reinforcing events within the environment. Additionally, the nativist/behaviorist argument brought forth the critical question of whether language could really be taught. Some of us believed at that time that, with a good supply of M&Ms, you could teach absolutely anything to anybody.

Next came Phase III, or the *Intent Period* (early 1970s), when "we became aware that these units and rules subserved the expression of meaning and intentions" (Yoder, 1987, p. 7). During this period, we became acutely aware of the conceptual underpinnings of utterances. In this phase, we returned to looking at the importance of the environment on language learning and use. Parents became important.

Following this was Early Phase IV, or the *Function Period* (mid 1970s). We began to attend to "the communicative functions of language ... (and) the perspective that acts of communication are present from the very beginning and are thus present before language, before speech" (Yoder, 1987, p. 7). We discovered here that there was a utilitarian purpose to it all -- the communicative functions of language. We finally looked closely at the expression of early intentions, or what we interpreted as communicative intentions and functions. Enter now the acceptance of multiple modes of communication -- *augmentative and alternative communication*. Were we getting closer? Closer to effective communication?

Closely following was Late Phase IV, or the *Interaction Period* (late 1970s). We now concentrated on the dyadic relationship that involved the individual with a disability and his or her communicative partner and the conversational rules that governed the exchange between them. How to make "them" more interactive with whatever system of expression was a push. Then came Phase V, or the *Ecological Period* (1980s), in which we attempted to incorporate all aspects of the individual's verbal and nonverbal communication behavior, as well as examine other factors in the environment that made for richer communication.

And where, my friends, are we today? It appears we're still looking for that hammer that will make it all better, and, once we've found it, we'll have "effective communication."

Or will we?

From the flying machine it appears that we could be entering a new phase in our efforts to enhance the communication of individuals with (severe) disabilities. Perhaps the "new phase" we are about to enter is a melding or merging of all previous phases, an arena for all players to take part. Attending only to units, rules of language, meanings, intentions, and functions in the individual with a disability, however, is not enough. Until the person with a severe communication disability has as many communication partners available with whom to interact as you and I have, our dream is of little worth. We need to create: EFFECTIVE PARTNERING.

We've tried all of the above interventions individually. Some parts of some of them have worked and are working to bring about communication behaviors for persons with severe communication disabilities. How effective they may be, we're still not sure. Perhaps they are effective in the classroom, at home, and at McDonalds, but that is not enough. There still is not a societal attitude of (communication) partnering with all persons with severe (communication) disabilities.

Schein (1985) described a hierarchy of attitudes that societies have historically displayed toward individuals with disabilities. Schein's five stages range from the lowest level, Stage I or Total Rejection, to the highest level, State V or Egalitarianism. In Stage V, the most accepting and embracing attitude a society can hold toward its citizens with disabilities is to provide services for the individual with a disability that need not be justified on the basis of economics or proclaimed as a moral obligation, but that are willingly provided because individuals with disabilities are equal citizens deserving of equal opportunities.

If our dream is for our society to have an egalitarian attitude toward its citizens with severe communication disabilities, we must provide a scheme to bring it about (advocacy). Schein (1985) lists several suggestions for effective advocacy. Effective advocacy requires more than simply the desire to help -- it requires particular skills and strategies (schemes). Among these suggestions is "getting the act together" (p. 358). What is our current act? Can we make it effective (communication) partnering? Schein advises conducting a needs assessment (I think we know our needs) and gaining a consensus on issues and methods for obtaining the desired goals (scheming). This, we don't know. Schein stated that individuals with disabilities and their advocates "must decide what position they take with respect to their status in our society" (p. 356).

The distant horizon is a bit hazy and unclear, but we can see part of the way. What should we do about the future we can see? I trust that our collective wits at this symposium will provide some of that answer, some schemes to *provide effective partnering to bring about effective communication*. Let's climb out of the flying machine and develop a scheme, a plan for the team to make our community (society) full of persons who desire and want to be partners -- not just *communication* partners but *full participating partners* -- across all our main life activities. Then we will have accomplished effective partnering, which embraces effective communication.

A new hammer? Perhaps not, but maybe pounding in the right place.

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Wrap-Up:
Concluding a Meeting

Leave Time for Evaluation

Remember to leave a few minutes at the end of your meeting (symposium, panel presentation, or workshop) to have participants provide you with feedback on the effectiveness of the meeting. This feedback, or evaluation, can help you determine:

- if the meeting accomplished your goals;
- if participants felt satisfied with the meeting's materials, activities, and discussions; and
- what revisions might be indicated for future meetings, in terms of agenda, topics, pacing, presenters, participants, group work, and so on.

Two sample evaluation forms, either of which might be used "as is" or adapted to gather feedback on your specific event, are presented on the following pages.

Write Down Conclusions or Recommendations of the Group

After the meeting, you may also find it useful to put the conclusions or recommendations of participants in writing and disseminate them to all those who attended. This is an excellent way of "continuing the discussion" between planners and participants, and of capitalizing on momentum generated in your meeting. Receiving such a report reminds people of the topics addressed, the recommendations developed, and any commitments to action that were made.

Consider including in your symposium or meeting report the telephone numbers and addresses of participants. This allows participants to stay in touch with each other and to build the networks and collaborative arrangements that are vital to service delivery in integrated settings for children and youth with severe disabilities.

As an example of such a report, and to provide information regarding the findings of the Second National Symposium, the results of the Second National Symposium's focus group reports are presented at the end of this Wrap-up section.

(Sample Evaluation Form)

Individual Focus Group/Workshop Evaluation Form

Workshop title: ______________________________

Date: ______________________________ Location: ________________

This evaluation form records your reactions to the Focus Group in which you participated. Circle the number on the right that best represents your opinion or feeling and use the comment section to expand on your response to any statement.

		Strongly disagree					Strongly agree
1.	The objectives of the focus group were clear to me.	0	1	2	3	4	5
2.	There was adequate time provided to meet the objectives.	0	1	2	3	4	5
3.	I had enough time and opportunities to participate.	0	1	2	3	4	5
4.	The material provided will be helpful to me.	0	1	2	3	4	5
5.	The results of the focus group will be helpful to me.	0	1	2	3	4	5
6.	I believe the material and focus group experience would be helpful to others.	0	1	2	3	4	5
7.	I am satisfied that the focus group report is a good representation of the main points of our discussion.	0	1	2	3	4	5
8.	The meeting location/room provided the services I needed.	0	1	2	3	4	5

(Supplemental Evaluation of Speakers/Panelists)

1.	The speakers were knowledgeable in the subject(s).	0	1	2	3	4	5
2.	The speakers' presentations were clear and organized.	0	1	2	3	4	5
3.	The speakers' presentations were good supplements to the topic papers.	0	1	2	3	4	5
4.	Adequate time was provided for the speakers.	0	1	2	3	4	5
5.	Adequate time was provided for the question and answer session.	0	1	2	3	4	5

(Sample Evaluation Form)

Evaluation Form for Symposium or Panel Presentation

This form includes a series of questions and rating scales designed to determine the quality and usefulness of this workshop. Your responses will be compiled and shared with the facilitators (and presenters) to improve future meetings. Thank you for your time and thoughtfulness in completing and returning this form.

Type of Respondent (Check all that apply):

____ Researcher	____ Teacher Trainer	____ Parent
____ Consumer	____ Federal Agency	____ State/Local Agency
____ Organization Representative	____ Other (please specify ____________________________)	

Please rate your satisfaction with each of the following by circling the appropriate number.

		Unsatis-factory		Average		Excellent
1.	Pre-symposium mailings.	1	2	3	4	5
2.	Response to phone inquiries concerning symposium.	1	2	3	4	5
3.	Symposium facilities.	1	2	3	4	5
4.	Convenience of on-site registration.	1	2	3	4	5
5.	Helpfulness of staff on-site.	1	2	3	4	5
6.	Organization of symposium meeting.	1	2	3	4	5
7.	Usefulness of topics addressed.	1	2	3	4	5
8.	Usefulness of session format(s).	1	2	3	4	5
9.	Materials/handouts.	1	2	3	4	5
10.	Contribution of symposium to your plans and/or activities.	1	2	3	4	5
11.	Your overall opinion of the symposium.	1	2	3	4	5

12. If you rated any of the above items as below average or unsatisfactory, please explain and provide any suggestions you might have for future conferences on the back of this form.

Focus Group Reports

The remainder of the Wrap-up section presents the results of the focus group discussions of each of the papers at the Second National Symposium. Most groups developed a list of ideas and suggestions far too lengthy to include here. What *is* included in this section is intended to provide an idea of the kinds of suggestions and recommendations that people generated in their groups and to serve as a supplement to the recommendations that your focus group creates.

In addition to the focus groups that addressed and discussed individual papers, there were also focus groups which met to address each of the four Symposium *themes*. These groups reviewed and discussed all papers within a theme. Organizing the papers into theme groups may or may not be appropriate to the interests of your group. Several other themes could be identified, such as the issues of family involvement, team collaboration, and in-service and pre-service training, which arise in almost every paper. The results of the focus group reports on the synthesis of papers per theme are included here for your information.

You may not wish to refer to any of these reports, allowing the participants of your own focus groups to generate their own suggestions and recommendations for action. Or you may wish to include these reports as a general reference with the papers you disseminate for discussion.

Theme I: The Establishment of an Integrated Environment in Which Effective Strategies for Team Approaches to Functional Communication Can Be Realized

Maximizing Family Participation in the Team Process

by Cory Moore

List up to five ideas that would most likely assist service providers in enhancing their delivery.

1. Provide and restructure resources to facilitate parent participation and service coordination.
    a) Redefine roles of team members.
    b) Provide more flexible hours for outreach and paid "flex time" for consultation, home visits, etc.
    c) Restructure funding
    d) Provide family coordinator to assist schools, teams, and families.
2. Develop a set of strategies to ensure that schools and school personnel accept the premise that parents can be active participants/partners in the enterprise of public education for their children.
3. Provide opportunities for parents and professional members of teams to get to know one another as individuals (beyond the agenda of determining educational objectives or evaluation performance, etc.).

List up to three recommendations for educational activities over the next five years.

1. Provide training and education to parents and professionals:
    a) on team process;
    b) on family, cultural issues, and disabilities awareness (including the grief process, barriers, special cultural issues); and
    c) to families and advocacy groups on new or changing service delivery models.
2. Involve PTI's and parent/consumer advocacy groups in acquainting service providers with the parent perspective.
3. In-service and pre-service education for all professionals regarding: grief process, family issues, cultural issues. Requirements for competence in family centered/driven program planning. Certification by state and professional associations.
    a) ensure that pre-service professionals have actual experience and are familiar with role models that instill understanding and respect for parent involvement.
    b) ensure that in-service activities support and encourage whole teams, including parents.

5. Compile and disseminate information directed effectively towards parents re: current concepts of "best practices" in rights and role in child's programs.
6. Value and philosophy development and dissemination for the school system and parents.

Facilitating and Measuring the Team Process Within More Inclusive Educational Settings

by Bonnie Utley, Ph.D.

List up to 5 ideas that would most likely assist service providers in enhancing their delivery.

1. Ongoing training in the team process.
2. Team process must consider and include families, using language that is family-focused.
3. Develop a support team made up of individuals who are naturally in the setting, including regular education, special education, related service providers, families, caregivers, students.
4. Ongoing orientation for regular educators, school administrators, other school personnel, and non-disabled peers in regards to child with the disability, disability issues, etc.
5. Develop team process which: defines mission, develops concrete objectives for student, and evaluates success, utilizing student outcomes.

List up to 3 recommendations for research and up to 3 recommendations for educational activities over the next 5 years.

EDUCATION

1. Tie into existing restructuring initiatives.
2. Create opportunities for social interactions with nondisabled peers.
3. Provide training and technical assistance opportunities for existing personnel. Create lectures/videotapes/products to assist service providers in team process, instruction, and personal dynamics.
4. Promote outcome-based educational models.
5. Identify the change agent in the school (most influential person).

RESEARCH

1. Develop Team Effectiveness Scales.
2. Measure student progress in different service delivery models.
3. Determine effectiveness of non-disabled peers participating in team process.
4. Determine the critical attributes of successful and unsuccessful teams.
5. Document that all students can learn in integrated settings.
6. Investigate changes that must take place in regular education models in order to accommodate staff and student needs resulting from inclusion.

Maximizing Consumer Participation in the Team Process

by Kim Powers

List up to 5 ideas that would most likely assist service providers in enhancing their delivery.

1. There is a need to train service providers, administrators, parents, and consumers in the team process, through modeling, effective listening techniques, and effective partnering as a technique.
2. Recruit and increase the number of persons with disabilities to provide direct services.
3. Increase the active participation of persons with disabilities in conferences of major disability organizations and professional associations.
4. Encourage and develop mentoring for consumers.

Focus Group Report on Maximizing Consumer Participation (continued)

5. Utilize strategies (such as P.F.P.) to include and focus more on the consumer, his or her family, and friends within the community.

List up to 3 recommendations for research and up to 3 recommendations for educational activities over the next 5 years.

EDUCATION

1. At the pre-service level, persons need to be trained on collaborative teaming, with more consumers and families involved in the training.
2. All team members need to be taught effective partnering (families, service providers, peers, siblings, and the community).
3. Infuse special education, regular education, and related fields under one category of pre-service training.

RESEARCH

1. Federal agencies should require evidence of active participation of consumers and parents on research projects that will impact the services of persons with disabilities.
2. There should be a requirement that parents and consumers be a part of all review panels for all Federal agencies.
3. Research on comparisons of self-advocacy and natural choices of people with disabilities and people without disabilities, ages birth to 25, so we can determine how to build skills leading to self-determination.

Synthesis of Theme I: The Establishment of an Integrated Environment in Which Effective Strategies for Team Approaches to Functional Communication Can Be Realized

List 5 factors that will facilitate the attainment of the recommendations made in the papers addressing this theme.

1. Preservice training.
2. Sensitize professionals re: interaction with consumers.
3. Open communication: what professionals know/don't know re: cultural and other diversity.
4. Training module - conflict resolution/ consensus building.
5. Learn how to develop process/ team work that assures input from all parties.
6. Team membership: Be sure that the team understands and agrees on the starting point/contexts that are critical, since these will prescribe the goals and implementation approaches.
7. Orient schools towards acceptance of all children - begin with "regular" educators and "regular" children.
8. Develop and disseminate specific implementation strategies for collaborative training.
9. Support/counseling groups for professionals to prevent burnout.

Knowing that translating research into practice is difficult, list up to 5 suggestions which would improve this activity. What are your responsibilities for bringing this about?

1. Researchers should frame questions for practical outcomes.

2. Research must be disseminated, not only for/to special education but transdisciplinary.

3. Promote greater transdisciplinary interaction (including families) on national/state/local levels.

4. Researchers need to write for consumers; Requests for Proposals (RFP)s could affect this.

5. Use computer bulletin boards, professional journals, and clinical forums to disseminate information/results.

Theme II:
Strategies for Meeting the Communication Needs of Children with Cultural, Linguistic, Geographic, and Etiological Differences

Using Functional Communication as an Intervention for the Challenging Behavior of Students with Severe Disabilities
by Mark Durand, Ph.D.

List up to 5 ideas that would most likely assist service providers in enhancing their delivery.

1. Integrated teams (family, school, personnel, regular & special education, peers) collaborate in assessment, planning, implementation, and evaluation efforts for challenging behavior.

2. Technical assistance support and resources: Types of levels of support (e.g., crisis management, family support, ongoing inservice, transition), with the goal of maximum participation in inclusive settings.

3. Information and training for peers, regular educators, and others in school and community re: challenging behavior.

4. Focus on preventive efforts, e.g., modifying learning contexts.

    - Recognizing all communicative efforts, input from all
    - Developing responsive environments
    - Comprehensive longitudinal planning for relationship-based communication development beginning as early as possible

5. Designation of a "coordinator" of the program planned for the child to assure communication and consistency among participants in their implementation of the program.

List up to 3 recommendations for research and up to 3 recommendations for educational activities over the next 5 years.

EDUCATION

1. Need WIDER dissemination of all research.

2. Need broad dissemination of best practices to service providers with emphasis on communication.

3. Pre-service and in-service education needed on integrating different models of behavior - a comprehensive behavior approach.

4. Pre-service and in-service education of regular and special educators.

Focus Group Report on Challenging Behavior (continued)

5. Training on "team" process for service providers - including families and multicultural issues.

RESEARCH

1. Recommend 5 year funding for research on prevention.

2. Need to emphasize transdisciplinary research (including families).

3. Need research on assessment that can be used by service providers for planning.

4. Determine how to disseminate information (research and best practices) to the service providers, families, etc.

5. Develop interventions that can be integrated into future planning for individuals.

Communication Interventions for Individuals with Dual Sensory and Intellectual Impairments

by June Downing, Ph.D.

List up to 5 ideas that would most likely assist service providers in enhancing their delivery.

1. Develop a system to get information to transdisciplinary team (including the family) where the student lives.

   Regionalize this system within and across states:

   - Technical assistance/outreach
   - High tech (satellite, dist. lrng, video)
   - Low tech (print, etc.)
   - Network/registry of resources (e.g., "Train the trainer" model in Indiana)
   - Heterogeneous/low incidence expertise

2. Personnel Preparation (pre-service and in-service)

   - Infuse sensory adaptations cross categorically
   - Interpreters: (a) deaf-blind interpreters; (b) instructional skills for interpreters
   - AAC strategies
   - Regular educators must be recipients of training
   - Demystification of deaf-blindness/dual sensory impairment
   - Maintain ongoing federal support

3. Families must be informed regarding choices and options.

Effective Communication Programming for Language Minority Students with Severe Disabilities

by Elva Durán, Ph.D.

List up to 5 ideas that would most likely assist service providers in enhancing their delivery.

1. Identify variety of funding sources for this effort: federal, state, business.

2. Develop guidelines for design of AAC systems; include diverse cultures.

3. Regular education teachers need to know ESL methodologies (in-service, peers).

4. A nationwide hook-up of media-instructional technology (distance learning).

5. Compendium of generic characteristics and information on specific characteristics.

6. Utilization of trained and qualified sign-language interpreters and other interpreters.

Focus Group Report on Language Minority Students (continued)

7. Need to value diversity and work on attitudinal issues (coursework, sensitivity training).

8. Political sensitivity: Need to be politically correct in addressing minorities.

9. Increase outreach to young people of different cultures.

    - Sensitivity to past prejudices
    - Team for recruitment with high school, junior high counselors
    - Need to begin in kindergarten

10. Need to know cultural value of education, teachers/teaching for different cultures.

11. Knowledge of cultural variability, attitudes, and need for intervention.

12. Guidelines for knowledge of how to address dialect in speech-language.

13. Need for school structure to support collaboration.

List up to 3 recommendations for research and up to 3 recommendations for educational activities over the next 5 years.

EDUCATION

1. In-service training in ESL.

2. At all levels collaborate; have ESL/ bilingual/special education work together.

3. At federal level, special education should have interagency collaboration for working together, joint meetings.

4. More national meetings like this should be funded, continued dialogue.

RESEARCH

1. Efficacy of current practice in working with culturally diverse children with severe disabilities, in qualitative and quantitative terms.

2. Interweave minority issues into Requests for Proposals (RFPs) on research.

3. Expand definition of nonstandard English to include American Sign Language.

4. Assessment of intended outcomes as applied to minorities with severe disabilities.

Communication Intervention for Persons with Severe and Profound Disabilities: An Overview

by Joseph Reichle, Kathleen Feeley, and Susan Johnston

List up to 5 ideas that would most likely assist service providers in enhancing their delivery.

1. Mentoring for development of functional communication: peers, teachers, others

2. Technical assistance: on-the-job consultant available to educational teams at low or no cost to LEA:

    - integration teams
    - staff
    - state provided
    - university partnerships
    - involvement of consultant should not necessarily have to be initiated by regular education teacher

3. In-service to the total educational team, focusing on total child

4. Visioning: expanded school day or "flex time" for educational team; More interagency collaboration to reduce duplication and expand amount of intervention from 6 hour school day

Focus Group Report on Severe and Profound Disabilities (continued)

List up to 3 recommendations for research and up to 3 recommendations for educational activities over the next 5 years.

EDUCATION

1. Conceptualize ourselves as service providers, not gatekeepers, through generic, transdisciplinary education occurring at higher education levels.

2. Increase efforts to provide pre-service and in-service training to professionals currently practicing in the field.

3. Provide incentives for participating in pre-service/in-service training.

4. Promote attitudinal changes in terms of:

   - becoming more child/family centered
   - focus on strengths, not deficits
   - eliminate a priori judgements about the child's potential

RESEARCH

1. Research re: actual outcomes

   - Personal
   - Societal
   - Cost effectiveness

2. Research on outcomes that vary with:

   - Service provision model [direct or indirect]
   - Environments

Synthesis of Theme:
DIVERSITY

List 5 factors that will facilitate the attainment of the recommendations made in the papers addressing this theme.

1. Teams employing exemplary assessment strategies may require minimal modifications to encompass differences.

2. Modifications in assessment and intervention need to consider cultural differences (support from ESL). Team composition may need to expand.

3. Identify roles to support children with diverse needs.

4. Mechanisms for ongoing collaboration (see papers presented).

5. Develop methods of promoting acceptance of students with diverse needs. Values-based training.

6. Increase awareness of existing resources for technical assistance and desire of teams to use this expertise.

Knowing that translating research into practice is difficult, list up to 5 suggestions which would improve this activity. What are your responsibilities for bringing this about?

1. Shift to a heuristic service model, as opposed to a "match-to-criterion" model. Focus on process, not on following a "cookbook" recipe.

2. A suggestion for a Request for Proposal (RFP): Applying effective technology for low-incidence, analogous regular education process.

3. Develop, fund, disseminate more diverse kinds of research: qualitative, quantitative, innovative.

4. Identify innovative, successful models and translate into practices.
5. Evaluate relationship of state credentialing and the role of university in local, ongoing capacity building.
6. Encourage/require assessment of the use of research results by regular education teachers.

Theme III:
Best Practices in Assessment and Intervention Strategies for Meeting the Communication Needs of Children and Youth with Severe Disabilities

Innovative Assessment Measures and Practices Designed with the Goal of Achieving Functional Communication and Integration

by Jim Halle, Ph.D.

What specific assessment tools and procedures have you found to be effective?

1. Comprehensive environmental assessment, having the following components:
    - Team approach: team has autonomy
    - Multiple agency involvement
    - Cross regular/special education lines
    - Flexible
    - Ongoing assessment and involvement
    - Culturally sensitive
    - Use existing assessments (those conducted by colleagues)
    - Conduct assessment in natural environments
    - Involve many people in assessment
    - Multiple times
2. When assistive technology is being used, assess use in actual settings.

Ways to Confront Barriers Preventing Change:

1. Change ASHA model.
2. Do not treat university pre-service training programs as separate. Collaborate with local practitioners and school districts.
3. In-service to administrators and educators to create change about scheduling, including job descriptions that permit comprehensive assessments.
4. To change what happens in a school, target the principal.
5. Collaborative planning within state to foster and incorporate change in assessment procedures.
6. Build into job descriptions and contracts the time to conduct appropriate assessments.
7. Recognize that assessment is ongoing; it does not end so that intervention can then begin.
8. University personnel must be committed to implementing new methods.
9. Survey re: where are the model preparation programs, and what criteria are used to define "model?"
10. Tie information on assessment into restructuring efforts.
11. We are moving away from parallel/separate systems of regular and special education.

Focus Group Report on
Enhancing Curricula Designs (continued)

- Invite regular educators to symposiums, workshops, etc., on issues concerning children with disabilities
- Encourage regular educators to invite others to their symposiums.

Enhancing Curricular Designs
by Pat Mirenda, Ph.D.,
and Steven Calculator, Ph.D.

Classroom Strategies to Combat Barriers:

Time: Time management, training, scheduling

- Flexibility of service provision in different environments
- Time for regular education (role redefinition)

Community Supports:

1. Interagency agreements and collaboration (e.g., speciality clinics and schools)
2. Regional technical assistance centers collaborating with schools: all levels

School/Districts: Strategies to Overcome Barriers:

1. Leaders as advocates for inclusion across schools: peer--peer.
2. People with disabilities in leadership positions.
3. Supports for continuing education (special education and regular education communication).
4. Prioritizing areas of expertise within school/district: action plan.

State/Federal: Strategies to Overcome Barriers:

1. Reconsider state funding formulae.
2. Funding not a penalizing factor for inclusion.
3. Identify state regulations that are barriers to inclusion.
4. Certification/licensure: Required knowledge base includes inclusion and related issues.

Pre-service: Strategies to Overcome Barriers:

1. University-community collaboration
2. Re-evaluating/changing training models
3. Special education and regular education training
4. Inclusive practicum experiences
5. Within university collaboration beyond education

Society: Strategies to Overcome Barriers: Barriers need to be dealt with through public media to develop disability awareness

Implementation: Inclusion

1. Use performance-based outcomes to design curricula for all children (e.g., portfolio assessment).
2. Align curricula with outcome approach, meeting needs of all children.
3. Federal mandates needed to create merging of divisions and funding (e.g., issues of resistance).
4. Merge special education with education at all levels (i.e., university/state level) - Redefine roles, restructure programs.

Focus Group Report on
Enhancing Curricular Designs (continued)

5. Examine other state reform issues (Kentucky).

6. Examine whole language approach.

7. Re-examine certification requirements for related professionals (i.e., PT, SLP, OT, Psych in area of AAC).

Synthesis of Theme: Best Practices in Assessment and Intervention

List 5 factors that will facilitate the attainment of the recommendations made in the papers addressing this theme.

1. Disseminate the Topic Papers, Reader's Guide and Videotape (and/or other versions of this project) to as many and varied groups, organizations, etc. as possible.

A partial listing of the original focus group's ideas follows:

- Regional trainers, service coordinators; state universities and colleges, state conference sessions

- SpecialNet Notice (use of media + telecommunication)

- Technical assistance center (TAC)

- Write articles for newsletters, professional associations' newsletters, News Digest (NICHCY)

- LEA local symposium; Topic for statewide Summer Institute Training; share with local education agency, Directors of Special Education

- Direct service providers in our own agency

- Notify persons in state department (Fiesta educativa)

- National network of grassroots offices: National disability organizations; Parent Training Centers; Protection and Advocacy centers

- Take policy implications to policymakers, persons with disabilities, parents, and advocates.

- Inform State Superintendents (CSSO)

- Apply for CSPD Grant money and SEA money

- Share with ASHA membership through tri-alliance (AOTA-ATPA-ASHA) and through Public School Caucus; include audiologists

- Disseminate product to Educational Audiologist's Association

- Develop Fact Sheet and 10 Best Practices for parents, educators, and medical personnel

- Medical professionals need information (AAP - AMA); Title VI funds for communication among medical professionals

- Administrative Training Projects (Regular and Special Ed) CASE, NAESP, NASSP

- Modify/revise best practices manuals to reflect input from Symposium

Knowing that translating research into practice is difficult, list up to 5 suggestions which would improve this activity. What are your responsibilities for bringing this about?

1. Develop strategic plan-needs assessment at state level.

Synthesis of Theme III (continued)

2. Plug policy recommendations into federal programs.

3. Publish information in user-friendly way (e.g., through Woodbine House).

4. ASHA and CEC conveying importance of information to state branches.

5. Provide information on what grants are available.

6. Hands-on training.

Theme IV:
The Design of Educational Programs to Promote the Quality of Life for Individuals with Severe Disabilities

Is Communication Really the Point? Some Thoughts on Where We've Been and Where We Might Want to Go

by Dianne Ferguson, Ph.D.

1. Membership/belonging is crucial to use and dissemination of this product.

2. Need to enable people to see programs which promote best practices and the value of membership.

3. Make product targeted to inclusive settings.

4. Communication is a part of the natural setting.

5. Pre-service trainers need to teach the value of inclusion.

6. Values should be included in curriculum and part of guidance counseling, never a separate agenda.

7. Use "tried and true" access points: PTA, Career Day.

8. Work with others (AFT, NEA, etc.) to provide training.

9. Interact with parent groups.

10. Use marketing companies to help promote inclusion.

11. Must make schools become "the community."

12. Take advantage of other departments in colleges/universities to promote values (public policy, business, medicine, etc.).

Synthesis of Theme: Design of Education Programs to Promote the Quality of Life for Individuals with Severe Disabilities

Federal/State/District Level:

1. What is membership and how do you evaluate it? How do you determine effectiveness? FED/SEA should promote concept and value of membership.

2. Design effectiveness standards to include ability of campus to serve all home-zone students.

3. Develop evaluation standards that include:

    - Team process
    - Family involvement
    - Site/school-based management
    - Appropriate technologies
    - Student involvement

Synthesis of Theme IV (continued)

4. Expand evaluation elements to include:

   - Regular education reform
   - Membership component
   - Ideas from business
   - Outcome focus of America 2000
   - Impact on out of school life, now and in the future

5. Promote research and field-based implementation for items 1-4 through collaborative efforts.

Local Level:

1. Shift perspective from "evaluation" to program improvement approaches that use ongoing information systems.

   Features of such a system might include:

   - Identifies learning membership as a key school outcome

   - Information is generated from all students, families, and other community members

   - Information is generated from professional staff who have knowledge of and experience with students involved

   - All service delivery is provided by members of school faculty/ community

   - Related services are delivered in natural context, building describable student growth in whatever ways seem most applicable to students and adults involved.

2. Fund projects for the development of programimprovement/informationsystems that local and individual schools can adapt.

Appendix A

Guidelines for Meeting the Communication Needs of Persons with Severe Disabilities

These guidelines, authored by the National Joint Committee for the Communicative Needs of Persons with Severe Disabilities (1992), appeared in *Asha, 34* (March, Supp. 7). Reprinted by permission of the American Speech-Language-Hearing Association (ASHA) in Rockville, Maryland.

Interstate Research Associates thanks ASHA for its generous permission to reprint this *Asha* article. Please be advised that, due to re-formatting of the text for this symposium package, the page numbers herein do not correspond to the original text at it appeared in *Asha*. Therefore, while the text is identical to the original, do not cite using the page numbers from this version. For a copy of the original text, please contact the American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852. Telephone: (301) 897-5700 (Voice/TT).

Guidelines for Meeting the Communication Needs of Persons With Severe Disabilities

National Joint Committee for the Communicative Needs of Persons with Severe Disabilities

The following guidelines were developed by the National Joint Committee for the Communicative Needs of Persons with Severe Disabilities and approved by the American Speech-Language-Hearing Association (ASHA) Legislative Council (LC 49-91) in November 1991. Joint Committee members who prepared this statement include the following: American Speech-Language-Hearing Association (ASHA) - James McLean (chair), Patricia Porter, and Diane Paul-Brown, ex officio; American Association on Mental Retardation - Mary Ann Romski; American Occupational Therapy Association - Barbara Chandler and Jane Rourk; American Physical Therapy Association - Claire McCarthy; Council for Exceptional Children, Division for Children with Communication Disorders, Lee Snyder-McLean; The Association for Persons with Severe Handicaps - Philippa Campbell, Joseph Reichle, and Kathleen Stremel; United States Society for Augmentative and Alternative Communication - Patricia Mirenda and David Yoder. Diane Eger, 1990-1992 vice president for professional affairs, was the ASHA monitoring vice president.

INTRODUCTION

History

In 1984, the Council of Language, Speech, and Hearing Consultants in State Education Agencies initiated efforts to develop national guidelines for developing and implementing educational programs to meet the needs of children and youth with severe communication disabilities. These efforts culminated in a national symposium, Children and Youth with Severe Handicaps: Effective Communication, that was jointly sponsored by the U.S. Department of Education's Office of Special Education Programs (OSEP) and the Technical Assistance Development System (TADS) of Chapel Hill, North Carolina. This symposium was held in Washington, DC, August 19-21, 1985, and involved professionals from state and local education agencies and universities across the nation -- most of whom were directly involved in developing or implementing communication intervention programs for children and youth with severe disabilities.

The product of this symposium (OSEP/TADS, 1985) consisted of 33 "consensus statements" that put forth assumptions and recommendations considered basic to the provision of adequate and appropriate services to meet the communication needs of children with severe disabilities. Some of these consensus statements reiterated philosophical and action statements already stated in Public Law 94-142; others added texture and specifics to actions specified in the law.

The symposium participants recognized the need for interdisciplinary efforts in this overall service domain. One of the symposium recommendations was that the American-Speech-Language-Hearing Association (ASHA) and The Association for

Reference this material as follows:

National Joint Committee for the Communicative Needs of Persons with Severe Disabilities. (1992). Guidelines for meeting the communication needs of persons with severe disabilities. *Asha, 34* (March, Supp. 7), 1-8.

Persons with Severe Handicaps (TASH) "be asked to coordinate an interagency task force for the preparation and dissemination of statements setting forth the parameters of responsibility for the development and enhancement of functional communication behavior of severely handicapped children and youth" (OSEP/TADS, 1985, III.6). In 1986, then, ASHA and TASH organized the National Joint Committee for the Communicative Needs of Persons with Severe Disabilities and issued invitations to other organizations to appoint representatives to the committee.

The National Joint Committee for the Communicative Needs of Persons with Severe Disabilities

The purpose of the National Joint Committee for the Commmunicative Needs of Persons with Severe Disabilities is to promote research, demonstration, and educational efforts, including both inservice and preservice education, directed to helping persons with severe disabilities communicate effectively. The interdisciplinary composition of this committee reflects the pervasive importance of communication in all spheres of human functioning and across traditional disciplinary boundaries. The shared commitment to promoting effective communication by persons with severe disabilities thus provides a common ground on which the disciplines represented by the member organizations can unite in their efforts to improve the quality of life of such persons.

Guidelines

The joint committee took as its first task the amplification of the basic assumptions and recommendations reflected in the consensus statements issued by the OSEP/TADS 1985 symposium. The amplification took the form of guidelines for meeting the communication needs of persons with severe disabilities, including persons with severe to profound mental retardation, autism, and other disorders that result in severe socio-communicative and cognitive communicative impairments. Indeed, the need for such guidelines is underscored by the fact that there are approximately 2 million Americans who are unable to speak or who demonstrate severe communication impairments, but there is a shortage of trained personnel to serve them. Few personnel preparation programs address the communication needs of persons with severe disabilities.

The guidelines presented here have three aspects. First, they state clearly the philosophy that undergirds current efforts to provide intervention services appropriate to the communication needs of persons with severe disabilities. Second, they focus on current best practices in intervention for persons with severe disabilities. Third, they identify the substance and the professional competencies that are necessary for an interdisciplinary team to implement the philosophy and best practices.

Introduction: ASHA Members

ASHA members will realize that these guidelines are but one of several efforts by ASHA to keep its members informed about the provision of appropriate communication intervention to an expanding clinical constituency. For example, the ASHA Committee on Language (1991) recently published "Guidelines for Speech-Language Pathologists Serving Persons with Language, Socio-Communicative, and/or Cognitive-Communicative Impairments." In this article, the Committee on Language reviewed ASHA's recent history in the publication of position statements and guidelines that help to ensure that its members are philosophically and substantively prepared to serve the ever-growing population of persons with severe and pervasive communication impairments. As the article noted, previous ASHA statements and guidelines have included attention to persons without speech (ASHA Ad Hoc Committee on Communication Processes and Nonspeaking Persons, 1981), persons with mental retardation (ASHA Committee on Mental Retardation/Developmental Disabilities, 1982), persons with cognitive-communicative impairments (ASHA Committee on Language, Subcommittee on Cognition and Language, 1987), and persons in need of augmentative and alternative communication (AAC) systems (ASHA Committee on Augmentative Communication, 1989). In the most recent article, the ASHA Committee on Language (1991) reviewed the knowledge bases and skills required of speech-language pathologists serving persons with language, socio-communicative, and/or cognitive-communicative impairments in early childhood, at school-age, and as adults. The extensive list of knowledge bases and skills offered in these guidelines testifies to the profound nature of the communication impairments that speech-language pathologists are being called on to manage in cooperation with representatives of other educational and rehabilitative disciplines.

The guidelines offered here by the National Joint Committee for the Communicative Needs of Persons with Severe Disabilities is an attempt to further inform the members of the constituent associations about current philosophies, intervention practices, and knowledge bases specific to the treatment of communicative impairments among persons with severe disabilities. These guidelines complement the guidelines issued by ASHA's Committee on Language in that they specify the status of current philosophy, intervention practices, and knowledge needs in the domain of persons with severe disabilities. Thus, for speech, language, and hearing professionals, these guidelines set the applied context in which the competencies recently described by the Committee on Language are operationalized.

Philosophy Statement

Recent legislation and litigation have required the provision of expanded educational and residential options for persons with severe disabilities. Underlying and supplementing these legal mandates are equally compelling moral and philosophical mandates for efforts to improve the overall quality of life of such persons. Any consideration of quality of life must take into account the degree to which individuals can effectively communicate with, and thus be a full participant in, the human community in which they live. Communication is, then, both a basic need and a basic right of all human beings.

What is Communication?

Communication is any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge, or affective states. Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms, and may occur through spoken or other modes.

Thus, all persons do communicate in some way; however, the effectiveness and efficiency of this communication vary with a number of individual and environmental factors. Further, some individuals with severe disabilities develop unconventional and socially inappropriate means to communicate, including aggressive acts toward themselves and others. It is the responsibility of all persons who interact with individuals with severe disabilities to recognize the communication acts produced by those individuals and to seek ways to promote the effectiveness of communication by and with those individuals.

A Communication Bill of Rights

All persons, regardless of the extent or severity of their disabilities, have a basic right to affect, through communication, the conditions of their own existence. Beyond this general right, a number of specific communication rights should be ensured in all daily interactions and interventions involving persons who have severe disabilities. These basic communication rights are as follows:

1. **The right to request desired objects, actions, events, and persons, and to express personal preferences, or feelings.**

2. **The right to be offered choices and alternatives.**

3. **The right to reject or refuse undesired objects, events, or actions, including the right to decline or reject all proffered choices.**

4. **The right to request, and be given, attention from and interaction with another person.**

5. **The right to request feedback or information about a state, an object, a person, or an event of interest.**

6. **The right to active treatment and intervention efforts to enable people with severe disabilities to communicate messages in whatever modes and as effectively and efficiently as their specific abilities will allow.**

7. **The right to have communication acts acknowledged and responded to, even when the intent of these acts cannot be fulfilled by the responder.**

8. **The right to have access at all times to any needed augmentative and alternative communication devices and other assistive devices, and to have those devices in good working order.**

9. **The right to environmental contexts, interactions, and opportunities that expect and encourage persons with disabilities to participate as full communicative partners with other people, including peers.**

10. **The right to be informed about the people, things, and events in one's immediate environment.**

11. **The right to be communicated with in a manner that recognizes and acknowledges the inherent dignity of the person being addressed, including the right to be part of communication exchanges about individuals that are conducted in his or her presence.**

12. **The right to be communicated with in ways that are meaningful, understandable, and culturally and linguistically appropriate.**

Environmental Management

A commitment to the communication rights of persons with severe disabilities requires careful attention to and management of the physical and interpersonal environments in which such persons live, play, and work. Most basically, all such environments must allow, recognize, facilitate, enable, and respond to communication by individuals with disabilities. Further, these environments must reflect an expectation that all people can and will communicate, regardless of the severity of their mental, physical, or sensory disabilities.

Communication Partners. To guarantee these communication rights for persons with severe disabilities requires the commitment and cooperation of all persons (employers, family members, friends, and staff members) with whom such persons interact daily. All of these individuals must be able to recognize and respond appropriately to the expressive communication produced by the person with severe disabilities with whom they interact, in whatever form that communication is expressed. These communication partners must also be able to provide communication input that is both perceptible and comprehensible to the individual with severe disabilities.

Collaborative Efforts. Further, it is evident that the ultimate achievement of such enabling communication environments will require the knowledge, skills, and experience of parents and of professionals from a variety of disciplines, including speech-language pathology, audiology, education, occupational therapy, physical therapy and other disciplines. It is equally evident that educational and therapeutic efforts directed towards promoting an individual's communicative effectiveness must be based upon and integrated into that individual's daily communication environments in a culturally sensitive manner and must involve all of that individual's communication partners.

Personnel Preparation. Finally, it is clear that the achievement of this level of interdisciplinary cooperation and collaboration, essential to the development of improved communication environments for persons with severe disabilities, will require major commitments of both preservice and ongoing inservice education resources. Current personnel preparation practices and policies are clearly inadequate to meet this need. At the most basic level, there is a need for more personnel in all disciplines who are educated and committed to deliver services to individuals who have severe disabilities. Beyond this, there is a need to enhance the substance of both preservice and inservice education for such personnel. Professionals in many disciplines today still receive no preparation at all in the area of communication, and others receive instruction that fails to reflect current knowledge and practice regarding the forms and functions of communication, particularly in nonlinguistic modes. It would seem that academic disciplines, educational institutions, and public agencies responsible for personnel policies must all share a commitment to address these needs.

Current Best Practices for Facilitating Communication Among Persons With Severe Disabilities

Current clinical practices for facilitating and enhancing communication among persons with severe disabilities reflect major revisions in the products and processes of the past. The substance of these revisions has been derived from empirical bases. However, the overall direction and the essence of these revisions reflect the mingling of two distinct philosophical bases.

The first philosophical base focuses on reversing the deleterious effects that severe disabling conditions have had on the relative place of people in the mainstream of society (Wolfensberger, 1972). The intervention implications of this philosophy lie in its insistence that the opportunity to have communicative effects on one's environment is a basic human right that should be enforced and enabled by the provision of active treatment for persons with severe disabilities. This philosophy further insists that environments for persons wtih severe disabilities be least restrictive (Brown et al., 1979; Gilhool & Stutman, 1978). This means that persons with severe disabilities should have access to the full human environment and the freedoms of action and choice that are available to persons without disabilities.

The second philosophical base relates to a view of human communication as social behavior that enables people to have effects on other people in their environment (Austin, 1962; Searle, 1969). This function permits cooperative societies of humans to be structured and coordinated for the good of the members of those societies (DeLaguna, 1963). The intervention implications of this philosophical base lead away from a consideration of communicative acts only in terms of their linguistic structure in a standard speech mode. Instead, current perspectives recognize that communicative acts can be produced in nonlinguistic forms and that, at least in the initial stages of intervention, the relative appropriateness of these acts should be judged in terms of their ability to attain needed social ends (McLean & Snyder-McLean, 1984; OSEP/TADS symposium, 1985; Schuler, Peck, Willord, & Theimer, 1989; Yoder & Villarruel, 1988). In the later stages of intervention, however, efforts might be focused on attaining communicative acts that reflect high levels of social conventionality and acceptability.

The intervention practices that arise from these two philosophical bases are clearly focused on efforts that seek to establish communicative repertoires that permit persons with severe disabilities to act on their social environments to achieve their rights to live, play, and work in ways that meet their basic needs and preferences (Brown, Nieptuski, & Hamre-Nieptuski, 1976). The development of intervention practices to attain such functional communicative repertoires has been well served by empirical data showing that (a) human communication and its effects on others begin long before a formal, spoken language system has been acquired (Bates, Camaioni, & Volterra, 1975); (b) communicative behavior and its effects are initially acquired in contexts that feature purposeful and responsive interactions between competent communicators and communication learners (Bates, Benigni, Bretherton, Camaioni, & Volterra, 1979; Bruner, 1975); and (c) the behavioral forms of communication attain higher and higher levels of conventionality, symbolization, and effectiveness from the process of using and receiving reinforcement for communicative acts (Bates et al., 1979; Bloom & Lahey, 1978; Moerk, 1978). All of this suggests, then, that the specific nature of a desired functional communication system is best conceptualized in terms of its social uses (e.g., direct the actions of others, direct the attention of others). Thus, semantic functions (e.g., label of action or object) and syntactic forms (e.g., noun plus verb plus noun) (Keogh & Reichle, 1985; Peck & Schuler, 1987; Reichle, Piche-Cragoe, Sigafoos, & Doss, 1988; Wetherby & Prizant, 1989; Wetherby & Prutting, 1984) should be addressed in the context of functional communication.

Current best practices, then, are focused on the attainment of socially effective communicative repertoires. This goal, in turn, requires that targeted communicative behavior can be (a) acquired by persons with severe disabilities; (b) comprehended by significant people in the person's environment; (c) matched up with communicative needs of community-based education, social, and work environments; and (d) taught in ways that are effective for both the initial acquisition and the generalization of communicative acts. This achievement of socially effective communication depends upon specific and comprehensive interdisciplinary practices. This means that the family and various professional disciplines must integrate information in assessment and goal setting and coordinate their delivery of intervention services (Calculator & Bedrosian, 1988). The specifics of these coordinated practices will be discussed briefly in the following sections of this paper.

Assessment Practices

Ideal assessment efforts begin with procedures that inventory and describe to what extent individuals are aware of their ability to act intentionally on people in their environments and to have effects on the behavior of those people. Assessment continues with procedures designed to identify the forms of an individual's extant communication repertoire, as well as the social functions (e.g., direct action, direct attention, protest, etc.) of that communicative behavior among individuals with severe disabilities (Higginbotham & Yoder, 1982; McLean, Snyder-McLean, Brady, & Etter, 1991; Schuler et al., 1989; Wetherby & Prutting, 1984).

The procedures and contexts needed to assess the communicative abilities and needs of persons with severe disabilities must be such that they ensure a comprehensive view of each individual's extant communicative abilities (Romski, Sevcik, Reumann, & Pate, 1988). This means that such descriptions must reflect repeated measures of the full range of an individual's performance across various areas of his or her educational, leisure, living, and working environments. Environmental assessments should be conducted in situations where individuals have a specific need or obligation to communicate. Thus, such descriptions should reflect all of an individual's communicative forms, including those expressed in nonspoken and nonsymbolic forms and those expressed in socially unacceptable ways, such as destructive and aggressive acts (Carr, 1977; Donnellan, Mirenda, Mesaros, & Fassbender, 1984). These descriptions should also report the respective functions that users apparently intend for these forms to accomplish. This assessment should also include measurement of hearing sensitivity.

Current best practices reflect an awareness that not only persons wtih severe disabilities, but also their environments, need to be assessed (Karan et al., 1979; Peck, 1989; Yoder & Villarruel, 1988). Environmental assessments are designed to ascertain the degree to which different environments invite, accept, and respond to communicative acts by persons with severe disabilities. Such an assessment is necessary because many environments are highly directive and allow little input from persons with severe disabilities. The national trend to establish less restrictive and more normalized environments reflects the awareness that many environments tend to dehumanize persons with severe disabilities by not allowing them to express their desires, interests, and preferences through communicative acts.

At a minimum, then, an environmental assessment should (a) identify the partners for communication who are most crucial in various environments; (b) measure the extent of the opportunities for communicative acts typically observed in various environmental contexts over time (e.g., education, leisure, living, and work settings, etc.); (c) compare the opportunities for communication among the different environmental contexts; (d) determine the proportion of communicative acts responded to appropriately in each environment; (e) determine the proportion of communicative acts responded to inappropriately in various environments; (f) identify the specific communicative forms and functions that might be useful or needed in various environments; and (g) identify the persons in those environments who appear to have relatively higher rates of permitting, accepting, and responding to communicative acts of an individual with severe disabilities. These highly responsive persons can be most useful in the initial stages of various intervention programs.

In summary, the forms and functions of communicative acts that are being used by individuals should be carefully observed before an intervention program is designed. The relative degree to which environments are sensitive and responsive to the needs of individuals to communicate should also be observed by assessing the frequency by which those environments invite, permit, accept, and respond appropriately to such acts. Given these data, professionals and significant others can then proceed to design program objectives both for individuals and the environments in which they learn, live, play, and work (Karan et al., 1979; OSEP/TADS symposium, 1985; Peck, 1989).

Goal-Setting Practices

Setting appropriate and attainable targets for intervention requires consideration of a complex system of variables. First, such practices are bidimensional in that they set goals both for individuals with disabilities and for the environmental contexts in which those individuals interact. Intervention is needed to alter environments that do not invite or respond to communicative acts. As will be discussed later, environments that encourage communication are needed as contexts for the initial learning of communication forms and functions. Environmental programming also reflects the awareness that the generalization of newly acquired communicative forms and functions to everyday use necessitates that all of an individual's environments require, invite, and reward communicative acts.

Second, goal-setting practices must take into consideration the individual's entry communicative repertoire. For example, it is often more effective to target a new, higher level of communicative form as a means to express a social function that is already present in the individual's repertoire. Thus, an unconventional vocalization that the individual already uses could be augmented by teaching a corresponding iconic gesture (Halle, 1987; Hart, 1985; Siegel-Causey & Guess, 1989). It is the use of such known and meaningful communicative functions in social contexts that allows individuals to better comprehend the meaning and function of the new communicative form being taught.

Third, goal-setting practices may initially target interaction between persons with disabilities and various communication partners as a means of strengthening interaction and the communicative use of any already existing system, such as natural gestures. In later stages of intervention, these same partners and interactive contexts will be used as contexts for procedures designed to enable the acquisition and use of higher, symbolic communication forms. Even the symbolic forms sought in later stages of intervention might not be speech but, rather, might focus on augmentative and alternative communication (AAC), including various unaided (e.g., manual sign) and aided symbol sets and systems. Aided AAC systems and devices (e.g., communication boards) include those that can be accessed in ways ranging from simple touchplates to computer keyboards (Blackstone, 1986; Musselwhite & St. Louis, 1989). The selection of any one or combination of these options depends on the cognitive and physical status of the individual, as well as the practicality and functionality of different modes in his or her daily social environments (Beukelman, Yorkston, & Dowden, 1985; Musselwhite & St. Louis, 1989; Reichle, York, & Sigafoos, 1991).

Intervention Practices and Procedures

The consistent use of meaningful interactive contexts is the hallmark of current intervention practices (Calculator & Bedrosian, 1988; Halle, 1988; MacDonald, 1985; Musselwhite & St. Louis, 1989; Romski, Sevcik, & Pate, 1988; Siegel-Causey & Guess, 1989; Warren & Rogers-Warren, 1985; Yoder & Villarruel, 1988). Such contexts stress meaningful use of communicative signals and provide the occasions for reinforcement of these social acts. These practices reflect the renewed awareness that teaching communication does not mean teaching just communicative forms. Rather, communication intervention means teaching communicative forms and functions – with the functions discoverable only in the interactive, socialized contexts in which these functions occur and are responded to by other people.

Interventions should take place in real-world, interactional contexts. The use of such teaching contexts contrasts sharply with past practices in which communicative forms were trained in isolated environments. The current use of interactive contexts involving other people as responders to communicative acts features learning opportunities dispersed over a wide range of meaningful interactions and contexts, rather than trials presented in a training context that is isolated from an individual's daily environment. Research data suggest that the use of truly interactive contexts, in which communicative acts actually function to affect the behavior of other people in purposeful interactions, both increases the rate of communicative initiations and allows for effective learning of communicative forms and functions (Halle, 1987; Hart & Risley, 1980). Teaching communication in these more natural contexts appears more likely to foster the maintenance and generalization of newly learned communicative behavior to all similar contexts in the individual's natural environment.

Service Delivery

When considered together, all of the assessment and intervention practices discussed above have important implications for service delivery practices. Communication intervention must involve significant people and significant contexts across multiple environments. The delivery of intervention services of this scope requires the collaboration and competence of families and of professionals and paraprofessionals from many disciplines. The ideal interdisciplinary delivery model requires that participants share a common perspective on communicative behavior. This shared perspective should include an understanding that communicative behaviors are social in that they have effects on other people, and that such behavior can be nonspoken and nonsymbolic in its form (OSEP/TADS symposium, 1985).

An interdisciplinary model also reflects an awareness that interactive contexts that are salient and productive for persons with severe disabilities involve family members and professionals and paraprofessionals from many disciplines. A master intervention program is best formulated and implemented by an interdisciplinary team and involves all of the contexts controlled and managed by individual members of the team. Depending on an individual's age and disability, the exact composition of the interdisciplinary team will vary. However, the team must include a speech-language pathologist and family member or guardian. Communication teaching takes place within the context of all life activities.

Clearly, each member of the interdisciplinary team, including family members, must be recognized as having specific and crucial contributions to make to the design of the communication intervention program. The specific knowledge and competencies that are required within an interdisciplinary team that is focused on the communicative needs of persons with severe disabilities are described below. As the wide range of knowledge and competencies needed by these teams is carefully examined, the need for interdisciplinary input should become abundantly clear.

Summary

In summary, the current best practices in the facilitation and enhancement of communication among persons with severe disabilities reflect six major tenets: (a) communication is social behavior; (b) effective communicative acts can be produced in a variety of modes; (c) appropriate communicative functions are those that are useful in enabling individuals with disabilities to participate productively in interactions with other people; (d) effective intervention must also include efforts to modify the physical and social elements of environments in ways that ensure that these environments will invite, accept, and respond to the communiative acts of persons with severe disabilities; (e) effective intervention must fully utilize the naturally occurring interactive contexts (e.g., educational, living, leisure, and work) that are experienced by persons with severe disabilities; and (f) service delivery must involve family members or guardians and professional and paraprofessional personnel.

These six tenets have resulted in assessment, intervention, and service delivery models that offer maximum responsiveness to the need to establish communicative repertoires that will allow persons with severe disabilities to function effectively in least restrictive environments -- in productive interactions with others.

Knowledge and Skills Needed by the Interdisciplinary Team in the Facilitation and Enhancement of the Communication of Persons with Severe Disabilities

The intervention goal for persons with severe disabilities is the establishment of functional communication, which includes the abilities to

1. Communicate for a variety of purposes relevant to individuals' life experiences.
2. Use a variety of communication modes to accomplish these purposes effectively.
3. Initiate, maintain, and terminate social interactions as a critical dimension of communication.

The most effective means to establish functional communication is through the coordinated efforts of all team members engaged in the development and implementation of education and treatment programs for persons with severe disabilities. Traditionally, this would involve the speech-language pathologist, audiologist, special educator, occupational therapist, and physical therapist working in concert with individuals and family members. The skills of professionals from other disciplines also may be required.

Each team member will bring unique knowledge, experience, and skills to the process of assessment and management of intervention programs. There may be variations in the interdisciplinary resources and functions in different service delivery settings. The knowledge, skills, and competencies needed within the interdisciplinary team, if optimal attention is to be given to the communicative needs of persons with a severe disability, are listed below:

1. Knowledge of the interactive nature of the processes of cognitive, communicative, motor, and social development.
2. Knowledge about individuals with disabilities of different ages and functioning levels.
3. Knowledge about the nature of the impairment resulting in communicative disability and factors that promote prevention.
4. Knowledge and experience with various unaided and aided modes of communication (including body postures, gaze, gestures, and speech, as well as electronic and nonelectronic devices).
5. Knowledge of personal amplification or other assistive devices that may be used by persons with severe disabilities who also exhibit a hearing loss.
6. Knowledge of medications and their effects on the behaviors of individuals, and especially on communication.
7. Knowledge of a variety of complications that are evidenced by individuals with severe disabilities in addition to the communication disability (e.g., feeding problems, seizures).
8. Knowledge of the relationship between socially unacceptable behaviors and communication.
9. Expertise in ongoing assessment and evaluation (through formal and informal standardized and nonstandardized procedures) of type, nature, and severity of the communicative impairment evidenced by individuals with severe disabilities. The ability to plan and implement a comprehensive assessment that leads directly to intervention goals and objectives.
10. Knowledge and ability to plan assessment and intervention that integrates the domains of cognitive, motor, sensory, and social functioning.
11. Ability to describe and document functional communication abilities and needs within the specific contexts of educational settings, living environments, recreational and vocational environments, and the community at large.
12. Knowledge and ability required to plan, implement, monitor, and modify as needed an interdisciplinary intervention program that will allow individuals with severe disabilities to develop functional communication skills, in spoken or other modes, that are appropriate to the individual's educational, living, recreational, and vocational environments.
13. Expertise in the determination of which speech and specific augmentative and alternative communication (AAC) devices and strategies to use to maximize functional communication.
14. Expertise with mobility aids.
15. Expertise in positioning to maximize functional communication in all environments.

16. Expertise with management of activities of daily living and incorporation of communication into each of these.

17. Skill and experience in determination of best access to electronic and nonelectronic devices.

18. Skill and experience in assessment for and implementation of gestural communication.

19. Expertise in the integration of communication, including AAC devices, in community, educational, living, recreational, and vocational environments.

20. Knowledge to develop an appropriate vocational curriculum.

21. Knowledge to select and implement a variety of service delivery models.

22. Ability to educate colleagues, administrators, parents, primary caregivers, and the community about individuals with severe disabilities and their communication needs and strengths, including the ability to conduct staff development, establish home programs, and use paraprofessionals.

23. Knowledge and ability to incorporate current research findings into communication programming.

24. Ability to understand family or caregiver needs and strengths and to interact in a culturally sensitive manner.

The level of interpersonal, interdisciplinary, and interagency cooperation required to create such facilitating and enabling communication environments and to meet personnel needs may seem, at first, to present overwhelming logistical obstacles. However, without such a commitment, there can be no true quality of life for persons with severe disabilities. This is a challenge worthy of our best efforts.

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Appendix B
List of Publishers

To assist you in obtaining articles, books, or other materials listed in the reference and resource sections of this Symposium's topic papers, this Appendix lists the names, addresses, and telephone numbers of publishers of the cited books and journals. Book and video publishers/producers are listed in alphabetical order in the first part of this list. Journal publishers then follow in alphabetical order, by name of journal.

Journal articles can generally be obtained through the original publisher or through using the services of University Microfilms International (UMI). When you contact the original publisher, you may be required to purchase the entire issue in which the article you want appears; prices vary from publisher to publisher. Through UMI, cost of all articles is $12.50. When using UMI, you must specify: the name of the journal, the date of the journal, the title of the article, and the author(s) of the article. Contact UMI at: 1-800-521-0600, extension 2786, or write to:

University Microfilms International
Attention: Article Clearinghouse
300 N. Zeeb Road
Ann Arbor, MI 48106

The names, addresses, and telephone numbers listed here are, of course, subject to change without notice, as is the availability of any given resource. If you are interested in obtaining a resource listed in this package, you will need to contact the publisher directly and inquire as to the resource's availability and price (including shipping and handling charges), and the publisher's procedures for ordering.

Although most publishers *are* listed on the following pages, the list is not inclusive of all those referenced in this package. Due to recent merging, buying, and selling of publishers, it was not possible to identify addresses and telephone numbers for all publishers listed. If you do not find the name of the publisher, it is either because pertinent information could not be located, because the publisher is not based in the United States, or because the resource was old (e.g., before 1975) and out-of-print.

Out-of-print books can often be obtained through two sources:

Lincoln Out-of-Print
33 Mt. Hygeia Road
Foster, RI 02825-1434
1-800-292-8969

Book Look
51 Maple Avenue
Warwick, NY 10990
1-800-223-0540

List of Publishers

Academic Press, 6277 Sea Harbor Drive, Orlando, FL 32887. Telephone: 1-800-545-2522.

Alemany Press, Order Processing Center, P.O. Box 11071, Des Moines, IA 50336-1071. Telephone: (515) 284-6751.

Allyn & Bacon, Order Processing Center, P.O. Box 11071, Des Moines, IA 50336-1071. Telephone: (515) 284-6751.

American Foundation for the Blind, 15 W. 16th Street, New York, NY 10011. Telephone: (212) 620-2000 (voice); (212) 620-2158 (TT).

American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852. Telephone: (301) 897-5700 (voice/TT).

Andover Medical Press, 80 Montvale Avenue, Stoneham, MA 02180. Telephone: 1-800-366-2665.

Association for Retarded Citizens/Minnesota, 3225 Lyndale Ave, Minneapolis, MN 55408. Telephone: (612) 827-5641.

Aspen Publishers, P.O. Box 990, Frederick, MD 21701. Telephone: 1-800-638-8437.

Association for Persons with Severe Handicaps (TASH), 11201 Greenwood Avenue N., Seattle, WA 98133. Telephone: (206) 361-8870 (voice); (206) 361-0113 (TT).

Basic Books, Division of Harper Collins, P.O. Box 588, Dunmore, PA 18512. Telephone: 1-800-242-7737.

Brookline Books, P.O. Box 1046, Cambridge, MA 02238. Telelphone: 1-800-666-2665.

California State University, Los Angeles, Division of Special Education, 5151 State University Drive, Los Angeles, CA 90032. Telephone: (213) 343-4415.

Callier Center, University of Texas at Dallas: Contact Callier Center for Communication Disorders, 1966 Inwood Road, Dallas, TX 75235. Telephone: (214) 905-3106.

Center for Developmental Disabilities, University of Vermont, 499C Waterman Building, Burlington, VT 05405. Telephone: (802) 656-4031 (voice); (802) 656-8499 (TT).

Charles C. Thomas Publishers, 2600 S. First Street, Springfield, IL 62794-9265. Telephone: (217) 789-8980.

Charles E. Merrill Publishing Company: Contact Macmillan Publishing Company, 100 Front Street, Box 500, Riverside, NJ 08075-7500. Telephone: 1-800-257-5755. For single copies, call 1-800-228-7854 or 1-800-257-5757.

Child Development Resources, P.O. Box 299, 6325 Centerville Road, Lightfoot, VA 23090. Telephone: (804) 565-0303.

College Hill Press: Contact Pro-Ed, 8700 Shoal Creek Boulevard, Austin, TX 78757. Telephone: (512) 451-3246.

Communication Skill Builders, 3830 E. Bellevue Road, P.O. Box 42050-P90, Tucson, AZ 85733. Telephone: (602) 323-7500 (voice/TT).

Communication Skills Center for Young Children with Deaf-Blindness: Contact Teaching Research Publications, 345 North Monmouth Avenue, Monmouth, OR 97361. Telephone: (503) 838-8792 (voice); (503) 838-8821 (TT).

Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091-1589. Telephone: (703) 620-3660 (voice), extension 480 for TT.

Croom Helm: Write to Director of Editorials, Routledge, Chapman, & Hall, 11 New Setter Lane, London, England EC4P4EE.

C.V. Mosby, 11830 Westline, Industrial Drive, St. Louis, MO 63146. Telephone: 1-800-325-4177.

DOK Publishers, P.O. Box 1099, Buffalo, NY 14224. Telephone: (716) 668-7691.

Don Johnston Developmental Equipment, Inc., P.O. Box 639, Wauconda, IL 60084. Telephone: 1-800-999-4660.

ERIC Clearinghouse on Handicapped and Gifted Children, Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091-1589. Telephone: (703) 620-3660 (voice); (703) 620-9480 (TT).

Gallaudet College Press, 800 Florida Avenue N.E., Washington, DC 20002-3625. Telephone: (202) 651-5488 (voice/TT).

Gardner Press, 19 Union Square West, New York, NY 10003. Telephone: (212) 924-8293.

Guilford Press, 72 Spring Street, New York, NY 10012. Telephone: 1-800-365-7006.

Harvard University Press, Attention: Customer Service, 79 Garden Street, Cambridge, MA 02138. Telephone: (800) 448-2242.

Helen Keller National Center, Technical Assistance Center, 111 Middle Neck Road, Sands Point, NY 11050-1299. Telephone: (516) 944-8900 (voice/TT).

Indiana Resource Center for Autism, Institute for the Study of Developmental Disabilities, Indiana University, 2853 East 10th Street, Bloomington, IN 47408. Telephone: (812) 855-6508 (voice); (812) 855-9396 (TT).

Indiana University Developmental Training Center: Now called the Institute for the Study of Developmental Disabilities, 2853 East 10th Street, Bloomington, IN 47408. Telephone: (812) 855-6508 (voice); (812) 855-9396 (TT). Ask for the Library.

Institute for the Study of Child Development - Information on the language interaction intervention program is now available from Communication Skill Builders, 3830 E. Bellevue Road, P.O. Box 42050-P90, Tucson, AZ. Telephone: (602) 323-7500 (voice/TT).

Irvington Publishers, 195 McGregor Street, Manchester, NH 03102. Telephone: (603) 669-5933.

JAI Press, 55 Old Post Road, No. 2, P.O. Box 1678, Greenwich, CT 06836. Telephone: (203) 661-7602.

John Wiley & Sons: Orders to: Eastern Distribution Center, 1 Wiley Drive, Somerset, NJ 08875-1272. Telephone: 1-800-225-5945.

Joiner Associates, Inc., 3800 Regent St., P.O. Box 5445, Madison, WI 53705. Telephone: (608) 238-8134 or 1-800-669-8326.

Jossey-Bass Publishers, 350 Sansome Street, San Francisco, CA 94104. Telephone: (415) 433-1767.

Kagan Cooperative Learning, 27134 Paseo Espada, Suite 302, San Juan Capastrano, CA 92675. Telephone: (714) 248-7757.

Kansas University Affiliated Program/Parsons, Attention: Mary Maxwell, 2601 Gabriel, Parsons, KS 67357. Telephone: (316) 421-6550, extension 1859.

Lawrence Erlbaum Associates, 365 Broadway, Hillsdale, NJ 07642. Telephone: (201) 666-4110. Orders to: 1-800-926-6579.

Little, Brown, 200 West Street, Waltham, MA 02254. Telephone: 1-800-759-0190.

Longman, c/o Addison Wesley, 1 Jacob Way, Reading, MA 01867. Telephone: 1-800-447-2226.

Love Publishing Company, 1777 South Bellaire Street, Denver, CO 80222. Telephone: (303) 757-2579.

Macmillan Publishing Company, 100 Front Street, Box 500, Riverside, NJ 08075-7500. Telephone: 1-800-257-5755.

Magination Press, 19 Union Square W., 8th Floor, New York, NY 10003. Telephone: (212) 924-3344.

McFarland, Box 611, Jefferson, NC 28640. Telephone: (919) 246-4460.

Merrill Publishing Company, see Charles E. Merrill Publishing Company.

Metropolitan Council: Contact the Minnesota Bookstore, 117 University Avenue, St. Paul, MN 55155. Telephone: (612) 291-6359 (voice); (612) 291-0904 (TT).

Mississippi State University: see Mississippi State University Rehabilitation Research and Training Center (immediately below).

Mississippi State University Rehabilitation Research and Training Center on Blindness and Low Vision, Mississippi State University, P.O. Drawer 6189, Mississippi State, MS 39762. Telephone: (601) 325-2001 (voice/TT).

Monaco and Associates, 531 N.E. 35th Street, Topeka, KS 66617. Telephone: (913)286-0218.

Multi-lingual Matters, Ltd., 1900 Frost Road, Suite 101, Bristol, PA 19007-1598. Telephone: 1-800-821-8312.

National Clearinghouse for Bilingual Education, 1118 22nd Street N.W., Washington, DC 20037. Telephone: 1-800-321-6223 or (202) 467-0867.

NICHCY (National Information Center for Children and Youth with Disabilities), P.O. Box 1492, Washington, DC 20013. Voice telephone: 1-800-999-5599 (outside of metropolitan DC); (703) 893-6061 (within metropolitan DC); (703) 893-8614 (TT).

Nisonger Center for Developmental Disabilities, Ohio State University, McCampbell Hall, 1581 Dodd Drive, Columbus, OH 43210. Telephone: (614) 292-8365 (voice); (614) 292-7529 (TT).

Office of Community Education, Massachusetts Department of Education, 1385 Hancock Street, Quincy, MA 02169. Telephone: (617) 770-7502.

Ohio State University, Nisonger Center for Developmental Disabilities, McCampbell Hall, 1581 Dodd Drive, Columbus, OH 43210. Telephone: (614) 292-8365 (voice); (614) 292-7529 (TT).

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Paul H. Brookes Publishing Company, P.O. Box 10624, Baltimore, MD 21285-0624. Telephone: 1-800-638-3775.

Penguin, Penguin USA, Box 999, Bergenfield, NJ 07621. Telephone: (212) 366-2000 or 1-800-253-6476.

Praeger Publishers: Contact Greenwood Press, Inc., 88 Post Road West, Box 5007, Westport, CT 06881. Telephone: (203) 226-3571.

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Pro-Ed, 8700 Shoal Creek Boulevard, Austin, TX 78758. Telephone: (512) 451-3246.

Psychological Corporation, Order Service Center, P.O. Box 839954, San Antonio, TX 78283-3954. Telephone: 1-800-228-0752.

RESNA, 1101 Connecticut Avenue N.W., Suite 700, Washington, DC 20036. Telephone: (202) 857-1199.

Responsive Systems Associates, 58 Willowick Drive, Lithonia, GA 30038. Telephone: (404) 987-9785.

Riverside Publishing, 8420 Bryn Marr Avenue, Chicago, IL 60631. Telephone: 1-800-323-9540.

Self-advocacy Training Project of Maryland, Disabled in Action of Baltimore, 3000 Chestnut Avenue, Baltimore, MD 21211.

Singular Publishing Group, 4284 41st Street, San Diego, CA 92105. Telephone: (619) 521-8000 or 1-800-521-8545.

Sky Oaks Productions, Inc., P.O. Box 1102, Los Gatos, CA 95031. Telephone: (408) 395-7600.

State of the Art, 1736 Columbia Avenue N.W., Suite 110, Washington, DC 20009. Telephone: (202) 797-0818.

St. Martin's Press, 175 Fifth Avenue, New York, NY 10010. Telephone: 1-800-221-7945.

Sycamore Publishing, P.O. Box 133, Sycamore, IL 60178. Telephone: (815) 756-5388.

Teachers College Press, P.O. Box 2032, Colchester, VT 05449. Telephone: Outside of VT, call 1-800-445-6638; in VT, call collect at (802) 878-0315.

Teaching Research Publications, 345 North Monmouth Avenue, Monmouth, OR 97361. Telephone: (503) 838-8792 (voice); (503) 838-8821 (TT).

Technical Assistance for Parents Programs (TAPP) Project, 95 Berkeley Street, Suite 104, Boston, MA 02116. Telephone: (617) 482-2915.

Temple University Press, 1601 N. Broad Street, University Services Building, Room 305, Philadelphia, PA 19122. Telephone: (215) 787-8787 or 1-800-447-1656.

Trace Research and Development Center on Communication, Control and Computer Access for Handicapped Individuals, S-151 Waisman Center, 1500 Highland Avenue, Madison, WI 53705. Telephone: (608) 262-6966 (voice); (608) 263-5408 (TT).

University of Illinois, College of Education, 110 Education Building, 1310 South Sixth Street, Champaign, IL 61820. Telephone: (217) 333-2325.

University of Oregon, Specialized Training Program, Eugene, OR 97403-5215. Telephone: (503) 346-2473.

University of Washington, P.O. Box 50096, Seattle, WA 98145-5096. Telephone: (206) 543-4050. Orders only: 1-800-441-4115.

W.H. Freeman, 4419 West 1980 South, Salt Lake City, UT 84104. Telephone: (801) 973-4660.

Woodbine House, 5615 Fishers Lane, Rockville, MD 20852. Telephone: Outside of the DC metropolitan area, call 1-800-843-7323; call (301) 468-8800 in DC metropolitan area.

Journals

AAC Journal, Lyle Lloyd (Editor), Purdue University, West Lafayette, IN.

American Annals of the Deaf - KDES Pas-6, 800 Florida Avenue N.E., Washington, DC 20002. Telephone: (202) 651-5340 (voice/TT).

American Journal of Mental Deficiency: This journal is now called *American Journal on Mental Retardation*; see name and address immediately below.

American Journal on Mental Retardation - American Association on Mental Retardation, 1719 Kalorama Road N.W., Washington, DC 20009. Telephone: (202) 387-1968.

American Journal of Occupational Therapy - American Occupational Therapy Association, Inc., P.O. Box 1725, 1383 Piccard Drive, Rocville, MD 20850. Telephone: (301) 948-9626.

Analysis and Intervention in Developmental Disabilities - Now called *Research in Developmental Disabilities*. Pergamon Press, Inc., Journal Division, Maxwell House, Fairview Park, Elmsford, NY 10523. Telephone: (914) 592-7700.

Analysis of Verbal Behavior - Verbal Behavior Special Interest Group, 1236 Stafford Avenue, Concord, CA 94521-3365. Telephone: (415) 682-5256.

Archives of General Psychiatry - American Medical Association, 515 N. State Street, Chicago, IL 60610-4320. Telephone: (312) 464-0183.

Asha - American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852. Telephone: (301) 897-5700 (voice/TT). Ask for Publications/Sales.

Augmentative and Alternative Communication, Decker Periodicals, Inc., One James Street South, P.O. Box 620, L.C.D.1, Hamilton, Ontario, L8N 3K7 CANADA.

Augmentative Communication News, One Surf Way, Suite 215, Monterey, CA 93940.

CDP Newsletter - Center for Demographic Policy, Institute for Educational Leadership, Inc., 1001 Connecticut Avenue N.W., Suite 310, Washington, DC 20036. Telephone: (202) 822-8405.

Child Development - University of Minnesota Institute of Child Development, 51 E. River Road, Minneapolis, MN 55455. Telephone: (612) 624-0526.

Child Study Journal - State University of New York at Buffalo, Professional Studies, 1300 Elmwood Avenue, BA 306, Buffalo, NY 14222-1095. Telephone: (716) 878-5302.

Demographics for Education: CDP Newsletter - Center for Demographic Policy, Institute for Educational Leadership, Inc., 1001 Connecticut Avenue N.W., Suite 310, Washington, DC 20036. Telephone: (202) 822-8405.

Disability Rag, P.O. Box 145, Louisville, KY 40201. Subscriptions: P.O. Box 6453, Syracuse, NY 13217. Telephone: (502) 459-5343.

Education and Training in Mental Retardation - Division on Mental Retardation, Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091. Telephone: (703) 620-3660.

Education and Training of the Mentally Retarded - This journal has been renamed *Education and Training in Mental Retardation* (see contact information directly above).

Education and Treatment of Children - Pro-Ed, Inc., 8700 Shoal Creek Boulevard, Austin, TX 78758. Telephone: (512) 451-3246. Ask for the journal department.

Exceptional Children - Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091. Telephone: (703) 620-3660.

Focus on Exceptional Children - Love Publishing Company, 1777 South Bellaire Street, Denver, CO 80222. Telephone: (303) 757-2579.

Infant Behavior and Development - Ablex Publishing Corporation, 355 Chestnut Street, Norwood, NJ 07648-2001. Telephone: (201) 767-8450.

Journal of Abnormal Child Psychology - Plenum Publishing, 233 Spring Street, New York, NY 10013. Telephone: (212) 620-8000.

Journal of Applied Behavioral Analysis, the Society for the Experimental Analysis of Behavior, Inc., Department of Human Development, University of Kansas, Lawrence, KS 66045. Telephone: (913) 843-0008.

Journal of Applied Behavioral Science - Corwin Press, Inc., 2455 Teller Road, Newbury Park, CA 91320. Telephone: (805) 499-0721.

Journal of the Association for Persons with Severe Handicaps - The Association for Persons with Severe Handicaps (TASH), 11201 Greenwood Avenue North, Seattle, WA 98113. Telephone: (206) 361-8870.

Journal of the Association for the Severely Handicapped - This journal of TASH has been renamed *Journal of the Association for Persons with Severe Handicaps*. See contact information given immediately above.

Journal of Autism and Childhood Schizophrenia - This journal has been renamed *Journal of Autism and Developmental Disorders*. See contact information given below.

Journal of Autism and Developmental Disorders - Plenum Publishing, 233 Spring Street, New York, NY 10013. Telephone: (212) 620-8000.

Journal of Child Language -Cambridge University Press, 40 W. 20th Street, New York, NY 10011. Telephone: (212) 924-3900.

Journal of Communication Disorders - Elsevier Science Publishing Company, 655 Avenue of the Americas, New York, NY 10010. Telephone: (212) 989-5800.

Journal of Consulting and Clinical Psychology - American Psychological Association, 750 First Street N.E., Washington, DC 20002. Telephone: (202) 336-5500.

Journal of Special Education, Pro-Ed, Inc., 8700 Shoal Creek Boulevard, Austin, TX 78758. Telephone: (512) 451-3246. Ask for the journal department.

Journal of Speech and Hearing Disorders - American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852. Telephone: (301) 897-5700.

Journal of Speech and Hearing Research - American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852-3279. Telephone: (301) 897-5700.

Journal of Visual Impairment and Blindness - American Foundation for the Blind, 15 West 16 Street, New York, NY 10011. Telephone: (212) 620-2149.

Language Learning - University of Michigan, Box 056, University Hospital, Ann Arbor, MI 48109. Telephone: (313) 764-0349.

Language, Speech, and Hearing Services in Schools - AmericanSpeech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852. Telephone: (301) 897-5700.

Mental Retardation, American Association on Mental Retardation, 1719 Kalorama Road N.W., Washington, DC 20009. Telephone: (202) 387-1968.

Merrill-Palmer Quarterly - Wayne State University Press, 5959 Woodward, Detroit, MI 48202. Telephone: (313) 577-5242.

Nature - Nature Publishing Company, 65 Bleecker Street, New York, NY 10012. Telephone: (212) 477-9600.

NICHCY Transition Summary - NICHCY (National Information Center for Children and Youth with Disabilities), P.O. Box 1492, Washington, DC 20013. Telephone: 1-800-999-5599 (outside of metropolitan DC area); (703) 893-6061 (inside metropolitan DC area); (703) 893-3614 (TT).

Pediatric Physical Therapy - Williams & Wilkins, 428 E. Preston Street, Baltimore, MD 21202. Telephone: (410) 528-4068.

Phi Delta Kappan - Phi Deltan Kappan, Inc., 8th and Union, Box 789, Bloomington, IN 47402. Telephone: (812) 339-1156.

Physical and Occupational Therapy in Pediatrics - Haworth Press, 10 Alice Street, Binghamton, NY 13904. Telephone: (607) 722-2493.

Psychological Bulletin - American Psychological Association, 750 First Street N.E., Washington, DC 20002. Telephone: (202) 336-5500.

Reading Improvement - Project Innovation, Box 8508, Spring Hill Station, Mobile, AL 36689. Telephone: (205) 633-7802.

Remedial and Special Education - Pro-Ed, Inc., 8700 Shoal Creek Boulevard, Austin, TX 78758. Telephone: (512) 451-3246. Ask for the journal department.

School Psychology Review - National Association of School Psychologists, 8455 Colesville Road, Silver Spring, MD 20910. Telephone: (301) 608-0500.

Scientific American - Scientific American, Inc., 415 Madison Avenue, New York, NY 10017. Telephone: (212) 754-0550.

Seminars in Speech and Language - Thieme Medical Publishers, 381 Park Avenue S., #1501, New York, NY 10016. Telephone: (212) 683-5088.

Teaching Exceptional Children - Council for Exceptional Children, 1920 Association Drive, Reston, VA 22091-1589. Telephone: (703) 620-3660. Ask for Publications Department.

TESOL Quarterly - Teachers of English to Speakers of Other Languages, 1600 Cameron Street, Suite 300, Alexandria, VA 22314. Telephone: (703) 836-0774.

Topics in Early Childhood Special Education - Pro-Ed, Inc., 8700 Shoal Creek Boulevard, Austin, TX 78758. Telephone: (512) 451-3246. Ask for the journal department.

Topics in Language Disorders - Aspen Publishers, Inc., Attention: Orders, 7201 McKinney Circle, P.O. Box 990, Frederick, MD 21701. Telephone: (301) 251-8500.

Ways - now called *New Ways*, P.O. Box 5072, Evanston, IL 60204.

Appendix C

Videotape
Table of Contents

This appendix provides a table of contents for the videotape included in this Symposium package. The videotape includes an introduction, an overview, and interviews with authors and the representatives of the focus groups.

The information below provides the length of each segment of the videotape, as well as the total running time of the program. You can find segments and keep track of where you are in the videotape in two ways:

(1) At the very beginning of the program (the first time you see Dr. McLean before the program's title), set your videocassette player's timer (the clock, *not* the counter) to 00:00:00. As you view the video or fast forward the tape, the timer will show the program's total running time.

(2) If you're in the middle of the tape and did not set the timer to zero at the beginning, forward the tape to the beginning of any segment and set the timer to 00:00:00 there. (On many VCRs, you will need to eject the tape and then re-insert it for the timer to reset to 00:00:00.) Then add up the individual segment lengths between where you are and the segment you wish to view and use the timer to find it.

Example: Zero the timer at Kim Power's segment. To get to the beginning of June Downing's segment, you would forward the tape 16 minutes and 55 seconds (the total of the segments in between). To get to Cory Moore's segment, you would reverse the tape 16 minutes and 7 seconds).

Videotape Table of Contents

PROGRAM SEGMENT	Segment Length	Program Running Time
Introduction	6:36	00:00 - 6:36
Overview	8:16	6:36 - 14:52
Interviews with Authors and Focus Group Representatives		
Keynote Address: James McLean Assuring Best Practices in Communication for Children and Youth with Severe Disabilities	3:25	14:52 - 18:17
Keynote Address: David Yoder Dreams, Schemes, Teams, Flying Machines and Persons with Severe Disabilities	2:51	18:17 - 21:08
Theme One		
Maximizing Family Participation in the Team Process		
Cory Moore	5:24	21:08 - 26:32
Diane Paul-Brown	1:55	26:32 - 28:27
Facilitating and Measuring the Team Process Within More Inclusive Educational Settings		
Bonnie Utley	7:23	28:27 - 35:50
Lisa Küpper	1:25	35:50 - 37:15
Maximizing Consumer Participation in the Team Process		
Kim Powers	3:55	37:15 - 41:10
Kathleen Stremel	5:38	41:10 - 46:48
Theme Two		
Using Functional Communication Training as an Intervention for the Challenging Behavior of Students with Severe Disabilities		
V. Mark Durand	4:36	46:48 - 51:24
Kathleen Stremel	2:48	51:24 - 54:12

PROGRAM SEGMENT	Segment Length	Program Running Time
Interviews with Authors and Focus Group Representatives (continued)		
Communication Intervention for Individuals with Dual Sensory and Intellectual Impairments		
June Downing	6:33	54:12 -1:00:45
Ann Bird	3:35	1:00:45-1:04:20
Effective Communication Programming for Language Minority Students with Severe Disabilities		
Elva Durán	7:16	1:04:20 - 1:11:36
Carol Valdivieso	3:48	1:11:36 - 1:15:24
Communication Intervention for Persons with Severe and Profound Disabilities: An Overview		
Joe Reichle	3:17	1:15:24 - 1:18:41
Diane Paul-Brown	1:36	1:18:41 - 1:20:16
Theme Three		
Innovative Assessment Measures and Practices Designed with the Goal of Achieving Functional Communication and Integration		
James Halle	10:00	1:20:16 - 1:30:16
Diane Paul-Brown	1:49	1:30:16 - 1:32:05
Enhancing Curricular Designs		
Pat Mirenda and Stephen Calculator	6:00	1:32:05 - 1:38:05
Kathleen Stremel	3:07	1:38:05 - 1:41:12
Theme Four		
Is Communication Really the Point? Where We've Been and Where We Might Want to Go		
Dianne Ferguson	8:16	1:41:12 - 1:49:28
Bill Sharpton	4:20	1:49:28 - 1:53:48
Credits		

ɪhe Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities

Topic Papers, Reader's Guide & Videotape

Interstate Research Associates is pleased to announce the publication of the final product of the Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities: A Vision for the Future. This product contains:

- The Keynote Addresses and the Ten Topic Papers. The full text of each author's paper is provided;
- A Reader's Guide, which enables you and your organization to participate in the Symposium in much the same way as those who attended the event; and
- A Videotape, which presents a series of interviews with the authors and representatives from the Symposium focus groups.

The Symposium, held in July 1992, served as a forum to identify critical issues and best practices and to recommend future directions for the acquisition and enhancement of effective communication by children and youth with severe disabilities, including deaf-blindness, in order to facilitate their participation in integrated school and community settings.

This product has been developed for inservice and/or preservice workshops or self-study so that those who live with, work with, and care about children with severe disabilities can participate in the exchange of information, research, and ideas that the Symposium made possible.

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